EPA/ROD/R03-00/063
2000

EPA Superfund
Record of Decision:

WESTINGHOUSE ELECTRIC CORP. (SHARON PLANT)
EPA ID: PAD005000575
OU 01
SHARON, PA
02/18/2000

RECORD OF DECISION
WESTINGHOUSE ELECTRIC (SHARON) SITE
OPERABLE UNIT ONE (SOILS)

DECLARATION

SITE NAME AND LOCATION

Westinghouse Electric (Sharon) Site
City of Sharon, Mercer County, Pennsylvania

STATEMENT OF BASIS AND PURPOSE

This Record of Decision (ROD) presents the selected remedial action for Operable Unit One (OUI) which addresses contaminated soils at the Westinghouse Electric (Sharon) Site, Sharon, Mercer County, Pennsylvania (Site). The remedial action was developed in accordance with the statutory requirements of the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended (CERCLA), 42 U.S.C. §§ 9601 et seq., and is consistent, to the extent practicable, with the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 C.F.R. Part 300. This remedy selection decision is based upon an Administrative Record compiled for this Site. An index to the Administrative Record is attached.

The Commonwealth of Pennsylvania concurs with this remedial action. A copy of the Commonwealth's concurrence letter is attached.

ASSESSMENT OF THE SITE

Actual or threatened releases of hazardous substances in the Site soils, if not addressed by implementing the response actions selected in this ROD, may present an imminent and substantial endangerment to the public health or welfare or to the environment.

DESCRIPTION OF THE SELECTED REMEDY

The selected remedial actions for the various Site areas are briefly outlined as follows

1. For the Railroad Property:

- Characterization of the soils on the west side of the tracks.

- Excavation of soils having PCBs, lead and arsenic concentrations exceeding risk-based levels.

- Treatment of soils exhibiting the characteristic of toxicity and constituting a Land Disposal Restriction hazardous waste under the Resource Conservation and Recovery Act prior to disposal.

- Offsite disposal of the excavated and/or excavated and treated soils.

- Backfilling of excavated areas.

- Deed restrictions (e.g., easements and covenants, title notices and land use restrictions through orders with or agreements with EPA) to provide for worker safety, to limit soil disturbance, to prevent the installation or use of groundwater wells and to prevent use of the Site for residential purposes.

2. <u>For the Moat Area:</u>

- Excavation of soils exceeding 689 ppm PCBs.

- Treatment of soils exhibiting the characteristic of toxicity and constituting a Land Disposal Restriction hazardous waste under the Resource Conservation and Recovery Act prior to disposal.

- Offsite disposal of excavated and/or excavated and treated soils.

- Covering with at least two feet of soil.

- Deed restrictions (e.g., easements and covenants, title notices and land use restrictions through orders with or agreements with EPA) to provide for worker safety, to limit soil disturbance, to prevent the installation or use of groundwater wells and to prevent use of the Site for residential purposes.

3. <u>For the A/B Slab Area:</u>

- Further characterization of soils in the area immediately north of Winner Steel Services that is used as a truck roadway.

- Excavations of soils if contaminants exceed risk-based levels.

- Treatment of soils exhibiting the characteristic of toxicity and constituting a Land Disposal Restriction hazardous waste under the Resource Conservation and Recovery Act prior to disposal.

- Offsite disposal of excavated and/or excavated and treated soils.

- Backfilling with materials, or paving with materials, which have sufficient strength to support the anticipated truck traffic.

- Deed restrictions (e.g., easements and covenants, title notices and land use restrictions through orders from or agreements with EPA) to provide for worker safety, to limit soil disturbance, to prevent the installation or use of groundwater wells and to prevent use of the Site for residential purposes.

4. For Winner Steel Services Truck Roadway and Railroad Spur:

- Remediation of the surface soils in the area that is expected to be occupied by the railroad spur consistent with the Railroad Property surface soil remediation, as noted above.

- Excavation of subsurface soils that exceed 689 ppm PCBs

- Treatment of soils exhibiting the characteristic of toxicity and constituting a Land Disposal Restriction hazardous waste under the Resource Conservation and Recovery Act prior to disposal.

- Offsite disposal excavated and/or excavated treated soil.

- Deed restrictions (e.g., easements and covenants, title notices and land use restrictions through orders from or agreements with EPA) to provide for worker safety, to limit soil disturbance, to prevent the installation or use of groundwater wells and to prevent use of the Site for residential purposes.

5. For the North Sector (AK Steel Corporation property) Area:

- Further characterization of surface and subsurface soils.

- Remediation of surface soils, where required, consistent with the remediation required as noted above for the Winner Steel Services truck roadway portion of the A/B Slab.

- Excavation of any subsurface soils exceeding 689 ppm PCBs.

- Treatment of soils exhibiting the characteristic of toxicity and constituting a Land Disposal Restriction hazardous waste under the Resource Conservation and Recovery Act prior to disposal.

- Offsite disposal of excavated and/or excavated and treated soils.

- Deed restrictions (e.g., easements and covenants, title notices and land use restrictions through orders from or agreements with EPA) to provide for worker safety, to limit soil disturbance, to prevent the installation or use of groundwater wells and to prevent use of the Site for residential purposes.

6. For the "Y" Building (American Industries) Area:

- Further characterization of the surface and subsurface soils.

- Remediation of surface soils on the south, east and north portions of the area in a manner consistent with the remediation required for the Winner Steel Services truck roadway portion of the A/B Slab.

- Excavations of subsurface soils on the south, east and north portions of the area where PCB concentrations exceed 689 ppm.

- Treatment of soils exhibiting the characteristic of toxicity and constituting a Land Disposal Restriction hazardous waste under the Resource Conservation and Recovery Act prior to disposal.

- Remediation of the soils on the west side of the area, if necessary, consistent with the Railroad Property soils remediation noted above.

- Offsite disposal of excavated and/or excavated and treated soils.

- Deed restrictions (e.g., easements and covenants, title notices and land use restrictions through orders from or agreements with EPA) to provide for worker safety, to limit soil disturbance, to prevent the installation or use of groundwater wells and to prevent use of the Site for residential purposes.

7. For the Former Tank Farm Area:

- Further characterization of the surface and subsurface soils.

- Remediation of surface soils in a manner consistent with the remediation required for the Winner Steel Services truck roadway portion of the A/B Slab.

- Excavation of subsurface soils in which PCB concentrations exceed 689 ppm.

- Treatment of soils exhibiting the characteristic of toxicity and constituting a Land Disposal Restriction hazardous waste under the Resource Conservation and Recovery Act prior to disposal.

- Offsite disposal of excavated and/or excavated and treated soils.

- Deed restrictions (e.g., easements and covenants, title notices and land use restrictions through orders from or agreements with EPA) to provide for worker safety, to limit soil disturbance, to prevent the installation or use of groundwater wells and to prevent use of the Site for residential purposes.

STATUTORY DETERMINATIONS

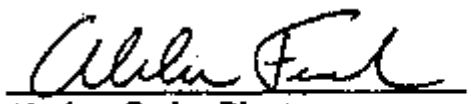
The selected remedy is protective of human health and the environment, complies with Federal and State requirements that are legally applicable or relevant and appropriate to the remedial action, and is cost effective. The remedy does not satisfy the statutory preference for treatment as a principal element of the remedy because treatment would result in extraordinarily high costs with no significant increase in protectiveness and because no source materials constituting principal threats will be addressed within the scope of this action.

Because the selected remedy will result in hazardous substances, pollutants or contaminants above levels that allow for unlimited use and unrestricted exposure remaining at the Site, a review under Section 121(c) of CERCLA, 42 U.S.C. § 9621(c), will be conducted within five years after initiation of the remedy to ensure that the remedy is providing protection of public health and welfare and the environment.

DATA CERTIFICATION CHECKLIST

The following information is included in the ROD and/or the Administrative Record:

- Contaminants of concern and their respective concentrations.
- Baseline risk(s) presented by the hazardous substances of potential concern.
- Cleanup levels established for the hazardous substances and the basis for the levels.
- Current and reasonably anticipated future land use assumptions.
- Land use that will be available at the Site as a result of the Selected Remedy.
- Estimated capital, operation and maintenance (O&M), and net present worth costs; discount rate; and the number of years over which the cost estimates are projected.
- Decisive factors that led to the Selected Remedy.



Abraham Ferdas, Director
Hazardous Site Cleanup Division
EPA, Region III

2/18/00
Date

Remedial Alternative Record of Decision Summary
Operable Unit One (Soils)

Westinghouse Electric (Sharon) Site
Sharon, Mercer County, Pennsylvania

I. SITE DESCRIPTION AND BACKGROUND

The Site includes the former Westinghouse Electric Company Sharon Transformer Plant which is located along the west side of Sharpsville Avenue in Sharon, Pennsylvania (Figure 1). The property upon which the former Westinghouse plant was located occupies nearly 58 acres and is located within the Shenango River Valley. The Shenango River flows in a north-to-south direction and varies from 800 feet to 2000 feet to the west of the former plant. The former plant property is approximately one mile in length along a north-south axis and is between 200 and 800 feet wide. The ground surface of the Site is generally flat with a gentle slope from north to south, and ranges from 860 feet to 900 feet above mean sea level. Currently, most of the former plant surface is under roof or is covered with pavement and/or concrete building foundations, except for a narrow area (called the "moat area") in the southwest portion of the Site. For the purposes of the environmental investigations, the Site was divided into three areas: the South Sector, the Middle Sector, and the North Sector. Various former and existing structures are shown on Figure 2 (the South Sector), Figure 3 (the Middle Sector), and Figure 4 (the North Sector). A Pennsylvania Lines, LLC property (formerly owned by Conrail), which contains contaminated soils, is considered to be part of the Site. This property extends along the western border of the property occupied by the former transformer plant.

The area east of the Site is primarily urban residential, while the area to the west, between the Site and the Shenango River, varies from commercial, institutional, recreational and light to heavy industrial. Today the area is part of an industrial expansion program under the direction of the Shenango Valley Industrial Development Corporation and Penn Northwest Development Corporation. This area including the former transformer plant, has been the site of commercial rail, and industrial activities since the mid-1800s.

Westinghouse purchased the plant property from the Savage Arms Corporation in 1922. For a period of over 60 years, the former Sharon Transformer Plant primarily produced distribution transformers, power transformers, and related electrical apparatus until its shutdown in 1984. Some of the transformers produced at the plant were liquid-cooled and approximately 98 percent of those were filled with highly refined mineral oil. Approximately 2 percent were filled with either a silicone fluid or a commercially-produced dielectric fluid called Inerteen. The Inerteen was nonflammable and consisted of either undiluted polychlorinated biphenyls (PCBs) or a mixture of PCBs and trichlorobenzene. Inerteen was first used at the former Sharon Transformer Plant in 1936; its use was discontinued in 1976. The Inerteen fluids were typically received and stored in tanks at the former tank farm area located in the Middle Sector. Inerteen

was also stored in an underground tank onsite. Mixtures of PCB compounds which contained differing amounts of chlorine by weight were used in Inerteen. The trade name "Aroclor" was used in conjunction with a four-digit number to identify the various types of PCB mixtures and their percentages of chlorine (e.g., Aroclor 1260 contained 60% of chlorine; Aroclor 1242 contained 42% chlorine).

In addition to Inerteen and transformer oil, several other chemicals are know to have been used at the Site. These include six volatile organic compounds (VOCs): ethyl acetate; methyl ethyl ketone; toluene; xylene; trichloroethylene; and 1,1,1-trichloroethane. The latter two materials were used in metal cleaning and degreasing operations at several locations onsite. Metal cleaning was also accomplished by acid or phosphatizing-bath processes. Leftover material from these processes was piped to a neutralization facility where it was treated. Other materials which were used at the Site included paints, varnishes, and small amounts of flammable liquids and cyanide. Over the decades of operations at the plant, leakages and spills of the various materials resulted in contamination of the Site soils, the ground water, and the sediments in the Shenango River.

Since the use of Inerteen was discontinued in 1976, Westinghouse decontaminated, removed and/or scrapped the entire Inerteen storage and distribution system. Also, from 1976 through 1986, several cleanup actions were undertaken by Westinghouse including:

- The excavation and offsite disposal of more than 7,800 tons of soil contaminated with PCBs, including soil from the removal of five underground storage tanks and from the cleanup of a spill of approximately 6,750 gallons of a PCB-contaminated mixture of transformer oil and a petroleum distillate in the moat area;

- The removal and landfill disposal of 60 cubic yards of PCB-contaminated fly ash from two settling tanks and a hot well;

- The recovery and incineration of 104 gallons of a PCB liquid that were discovered in a concrete sump; and

- The removal, shredding and incineration of more than 4,500 PCB-containing capacitors.

In addition, Westinghouse completed a number of cleanups that involved various surface areas including basements, floors, cisterns, hot wells, cold wells, varnish tanks, underground storage tanks and pits. These cleanups were undertaken to reduce or, in some specific instances, to eliminate concentrations of residual PCBs and other potential contaminants. However, on a Site-wide basis, sufficient concentrations of contaminants remain which continue to pose a significant threat to the public health and welfare and the environment.

II. REGULATORY HISTORY

In November 1980, the Westinghouse facility qualified for Interim Status under Subtitle C of the federal Resource Conservation and Recovery Act (RCRA), 42 U.S.C. §§ 6901 et seq. because Westinghouse had filed a notification of Hazardous Waste Activity as well as Part A of a RCRA permit to treat, store or dispose of hazardous waste. Westinghouse withdrew Part A of its RCRA Permit in July 1983 when the facility was converted to RCRA generator-only status.

In July 1993, EPA conducted an inspection of the facility pursuant to the Toxic Substances Control Act. In April 1985, the Pennsylvania Department of Environmental Resources (now PADEP) issued Westinghouse an Administrative Order to undertake a subsurface investigation to determine the horizontal and vertical extent of impacted ground water and soil (the final report was submitted by Westinghouse in September 1986), and to submit a plan and a schedule for the cleanup and containment of impacted soils and ground water (these were submitted by Westinghouse in October 1986).

EPA proposed the Site for inclusion on the National Priorities List (NPL) in June 1988 and added the Site to the NPL in August 1990.

In September 1988, Westinghouse entered into a Consent Order and Agreement with PADER to conduct a Remedial Investigation and Feasibility Study (RI/FS) to determine the nature and extent of contamination at the Site, to characterize the risks to human health and the environment, and to evaluate alternatives to clean up the contamination at the Site. In February 1994, EPA issued a Unilateral Administrative Order to Westinghouse pursuant to Section 106(a) of CERCLA for the development and implementation of a Response Action Plan for the removal of light non-aqueous phase liquids (LNAPL) from ground water underneath the tankfarm in the Middle Sector in order to reduce the threat of offsite migration of the LNAPL. EPA approved a Pilot Study report and a subsequent modification letter in August 1995 and approved a subsequent work plan for an LNAPL Removal Response Action. The LNAPL response action at the Site is ongoing. On March 20, 1996, Westinghouse submitted the final Remedial Investigation Report which was approved by PADEP on May 24, 1996. On June 6, 1997, Westinghouse submitted a final Screening-Level Ecological Risk Assessment (approved by PADEP on August 7, 1997), and on April 7, 1998. Westinghouse submitted the final Baseline Human Health Risk Assessment (approved by PADEP on April 22, 1998). Additionally Westinghouse (now CBS Corporation) agreed to pursue the cleanup of the massive Middle Sector Buildings complex under the September 1988 PADER Consent Order and Agreement. Those buildings are contaminated with lead from lead-based paints, and with PCBs. CBS is currently conducting the cleanup of the Middle Sector Buildings, primarily under the regulatory authorities of PADEP, and that cleanup is expected to be completed by the end of the year 2000.

III. SCOPE AND ROLE OF THE OPERABLE UNIT

This Operable Unit, Operable Unit One, addresses soils at the Site. Exposed and potentially contaminated soils are currently found in the moat area in the southwestern portion of the Site, and in the area on the western edge of the Site along the railroad tracks. Limited amounts of exposed soils are also found along and between the buildings of the AK Steel Corporation warehouse in the North Sector, and along the west side of, and immediately north of, the Winner Steel Services building in the South Sector. Most of the soils at the Site are covered by buildings and/or concrete or asphalt pavings. Operable Unit One, the remediation of certain portions of the Site soils, is intended to be the first of at least two operable unit remediation scenarios. At this time, EPA anticipates that there will be a second operable unit which will address remediation of contaminated sediments in the Shenango River and ground water.

IV. SITE SOILS CHARACTERISTICS

Most of the Site is covered by buildings or is paved with asphalt or concrete leaving a minor portion of the Site as exposed soil. A number of sampling events of the various soil areas of the Site were conducted by several entities since the 1980s. Soils in several areas were inadequately sampled for the purposes of the remedial investigation, including the soils in the North Sector (Figure 4). However, the limited samplings of the surface soils in the North Sector found those soils to contain concentrations of PCBs up to 590 parts per million (ppm). Soils in the Middle Sector (Figure 3) were sampled immediately west of the large Middle Sector Buildings complex where 431 ppm PCBs was found in the surface soil.

The A/B Slab portion of the South Sector (Figure 2) is, for the most part, paved with asphalt or concrete. It was sampled using soil boring techniques. Manganese (Mn), a metal contaminant, was found in relatively high concentrations (up to 23,600 ppm) in subsurface soils below a depth of five (5) feet in one soil boring location. The southern portion of the A/B Slab area is subjected to intensive traffic by heavy trucks, and the paving in that southern portion appears to have been fractured by the truck traffic. Adequate sampling of the soils immediately below the paving in that area was not conducted, so the degree of contamination of those near-surface soils, if any, is not known.

The southern end of the South Sector is largely covered by the Winner Steel Services building (Figure 2), but contains a portion of the so-called “moat” area and a relatively small amount of unpaved roadway along the western side of the Winner building. PCB contamination appears to be concentrated in the northern portion of that unpaved roadway and has been detected by Winner at concentrations up to 41 ppm in the surface soils and up to 9900 ppm in the subsoils. The Winner-owned southern portion of moat area contains only incidental PCB concentrations and it has been filled in by Winner and covered with a 10-inch top layer of crushed stone. The remaining portion of the moat area, which essentially runs along the west side of the A/B Slab area (Figure 2), has been found to be contaminated with PCB concentrations generally in the 10’s to 100’s of parts per million, with one sample reported to have a PCB

concentration of 16,000 ppm. Additionally, arsenic (As) concentrations up to 102 ppm were determined to be present in the moat soils.

The former "Y" Building, now owned by the Shenango Valley Development Corporation and occupied by American Industries, is located in the South Sector west of the moat area. Only one soil boring was done on that property and the soil samples from that boring showed no PCB contamination. However, that one soil boring was not adequate to properly characterize the "Y" Building area.

A Pennsylvania Lines, LLC railroad extends along the full length of the western side of the former Westinghouse plant property (see figures 2, 3 and 4). Surface soils were sampled in the portion of the railroad property from approximately where the railroad crosses over the moat area to the northern end of the North Sector. That sampling was conducted on the east side of the railroad tracks. No soil sampling of the railroad property was conducted on the west side of the tracks or south of the moat crossing. Soil samples obtained along the east side of the tracks just west of the Middle Sector Building contained PCB concentrations up to 580 ppm and lead (Pb) concentrations up to 3200 ppm. Surface soil samples obtained on the east side of the tracks just west of the North Sector contained PCB concentrations as high as 141 ppm.

Analyses of soil samples from the residential properties near the Site revealed no contamination with Site-related hazardous substances. However, some of the residential properties were contaminated with arsenic in concentrations up to approximately 40 ppm and with polynuculear aromatic hydrocarbons (PAHs); neither of these could be attributed to the Site. PAHs are common residential and urban contaminants and the arsenic concentrations in the soils might be naturally-occuring concentrations for the geographic area.

V. CURRENT AND POTENTIAL FUTURE LAND USES

The current use of the Site includes a steel galvanizing operation on the Winner property, an industrial steel warehousing operation on the AK Steel Corporation (formerly Armco, Inc.) property, ongoing operation of the railroad tracks owned by Pennsylvania Lines, LLC. The Middle Sector Buildings are currently undergoing interior remediation for PCB contamination as a removal action under State authority. EPA anticipates that the property will likely be subject to redevelopment for industrial use.

VI. SUMMARY OF RISKS DUE TO SOILS

As part of the Remedial Investigation process, Westinghouse conducted a complete Human Health Risk Assessment which is documented in the "Baseline Human Health Risk Assessment Of The Former Westinghouse Transformer Plant, Sharon, Pennsylvania" (the HHRA) dated April 7, 1998. The HHRA evaluated hypothetical upper-bound carcinogenic and non-carcinogenic risks to various potential human receptors of contaminants of concern, including PCBs, lead and arsenic, which are in impacted media at the Site. Because the

Assessment relied upon conservative assumptions and because conservative input parameter values were used throughout the Assessment, EPA believes that the Assessment conservatively estimates the maximum exposures. As such, the numeric values summarized in the HHRA should be considered conservative upper-bound estimates of risks to human health.

For carcinogenic risk estimates, the principal concern is for potential child trespassers who may be exposed to surficial soils within the railroad property that runs along the western border of the Site. This excess risk is largely the result of elevated PCB concentrations in that portion of the railroad property that lies immediately west of the Middle Sector and the North Sector. Future employee exposure to indoor air in the Middle Sector Buildings also resulted in excess risk. However, this risk might not realistically represent chronic exposure to the indoor air and will be addressed prior to future use of the buildings. Further, the compound that drives the excess risk resulting from exposure to indoor air in the Middle Sector Buildings, 1,2-dichloroethane, has not been detected in soils near the buildings at concentrations that would be expected to create significant vapor concentrations. In addition to these potential carcinogenic risks, EPA's calculations of unrestricted worker access to the moat area in the southwestern portion of the Site resulted in carcinogenic risk estimates that are greater than the acceptable risk range set forth in the NCP.

Excess non-carcinogenic risks resulted for the child trespasser and the adolescent trespasser within the railroad-right-of-way, the future employee within the Middle Sector Buildings, the indoor and outdoor construction worker, and the unrestricted worker in the moat area. As noted earlier, PCBs play a significant role in contributing to total non-cancer risks for the child and adolescent trespassers on the railroad property. Manganese is the only substance significantly contributing to the total non-cancer risk for both the indoor and the outdoor construction worker scenarios. 1,2-dichloroethane is the predominant substance impacting estimates of cancer to the future employees in the Middle Sector Buildings, but may be related to ground water rather than soil.

Soil contaminants of concern at the Site include arsenic, manganese, polychlorinated biphenyls (PCBs), and lead. Arsenic is classified by EPA as a Group A carcinogen, a human carcinogen. This classification is based upon evidence of lung cancer in human populations exposed via inhalation, and increased incidence of skin cancer in populations exposed to arsenic in drinking water. Sublethal doses cause stomach and intestinal irritation, decreased production of red and white blood cells, abnormal heart rhythm, blood vessel damage, and impaired nerve function. The highest level of arsenic detected during the Remedial Investigations was 102 parts per million (ppm) in the surface soils of the moat area. That concentration of arsenic represents a carcinogenic risk of 3.5×10^{-5}. An arsenic level of only 10.4 ppm was calculated to represent the 1×10^{-6} carcinogenic risk in the railroad area surface soil. However, background soil samples obtained offsite contained arsenic concentrations of approximately 40 ppm indicating that the area has naturally high arsenic concentrations in the soil.

Manganese is classified by EPA in Group D, and is therefore not classifiable as a human

carcinogen. The primary target for manganese toxicity by all exposure routes in humans appears to be the central nervous system. Humans with very high occupational inhalation exposures have developed a neurological syndrome resembling Parkinson's disease. Similar symptoms have been reported in a few cases of high oral exposure. The highest concentrations of manganese detected during the Remedial Investigations was in subsurface soils under the concrete-covered A/B Slab area. No carcinogenic risk was associated with these levels of manganese, however, under the very conservative exposure scenario for onsite workers presented in the Human Health Risk Assessment, the manganese in this area presented a non-carcinogenic Hazard Index of 9.0.

Polychlorinated biphenyls (PCBs) are a class of compounds comprising 209 individual congeners. In its weight-of-evidence determination of PCB carcinogenicity, EPA categorizes all PCB mixtures in Group B2 (probable human carcinogen) based upon sufficient evidence of carcinogenicity in rodents. Epidemiological studies of occupational exposures to PCBs show a variety of impacts including chromosomal aberrations, developmental effects, immunological effects, and neurotoxicity. PCB contamination is widespread over the Site. Aroclors 1254, 1248, and 1260 were detected in the soils of the railroad property in concentrations of 270 ppm, 210 ppm, and 170 ppm, respectively. The 270 ppm concentration for Aroclor 1254 alone constitutes a Hazard Index of 11.1. A concentration of approximately 21 ppm for total PCBs in the railroad area presents a carcinogenic risk of 3×10^{-6}; a 71 ppm concentration of PCBs in the railroad area presents a carcinogenic risk of approximately 1×10^{-5}. Aroclor 1260 was detected in a concentration of 840 ppm in the moat subsurface soils presenting a carcinogenic risk of 1.2×10^{-6}. PCBs in the moat surface soils presented a Hazard Index of 3.2. A concentration of 689 ppm in subsurface soils was determined to present a carcinogenic risk of 1×10^{-6}. The 1990 EPA document, "Guidance of Remedial Actions for Superfund Sites with PCB Contamination," suggests that a PCB concentration of 500 ppm in industrial soils might constitute a "principal threat." However, the 689 ppm level for PCBs in subsoils which was calculated utilizing Site-specific risk-based calculations pursuant to 40 C.F.R. § 761.61 and promulgated in 1998, is protective of human health and the environment.

Lead is classified by EPA as a Group B2 carcinogen based upon inadequate carcinogenic evidence in humans and sufficient animal carcinogenic evidence. Renal tumors are the most common carcinogenic effect. The major adverse effects in humans caused by lead include alterations in the blood and nervous systems. Toxic blood concentrations in children and in sensitive adults may cause sever irreversible brain damage, encephalopathy, and possibly death. Physiological and biochemical effects that occur even at low levels include enzyme inhibition, interference with vitamin D metabolism, cognitive dysfunction in infants, electrophysiological dysfunction, and reduce childhood growth. The highest validated concentration of lead in the railroad area was 624 ppm although the Remedial Investigations produced one unvalidated sample with a concentration of 3,200 ppm. A lead concentration of 451 ppm was detected in the moat area subsurface soils. No concentrations of lead have been specifically designated by EPA as presenting specific carcinogenic risks. However, EPA currently uses its December 1996 document, "Recommendations of the Technical Review Workgroup for Lead for an Interim Approach to Assessing Risks Associated with Adult Exposures to Lead in Soil" as a guidance in

determining cleanup levels. According to that guidance document, a lead concentration of approximately 1000 ppm is midway within the acceptable cleanup range for adult exposures under industrial conditions.

Numerically, total excess carcinogenic risks for each of the areas of soil at the Site range between 2×10^{-4} and 1×10^{-6}. A risk of 2×10^{-4} means that, if no cleanup action is taken, two additional people per 10,000 exposed have a chance of contracting cancer as a result of exposure to the contaminated soil. (This assumes hypothetical exposure as estimated in the risk assessment.) A risk of 1×10^{-6} means that one additional person per 1,000,000 is assumed to have a chance of contracting cancer. Additionally, the total non-cancer Hazard Indices for each of the contaminated soil areas at the Site range from well below one to approximately 12. Any hypothetical risk scenario demonstrating a Hazard Index of greater than 1.0 might be of potential concern since potential non-cancer effects cannot be ruled out. For subsurface soils at the Site, the total carcinogenic risk relating to all chemicals is 2×10^{-6} and the total non-carcinogenic Hazard Index, relating almost exclusively to manganese, is approximately 8 to 10. (*The lower subsurface soil numbers are for indoor construction workers; the higher numbers are for outdoor construction workers, both of whom could potentially be involved in intrusive activities that would bring the workers into contact with the subsurface soil. In addition, the potential exists for the hypothetical construction worker to inhale chemical vapors and soil particles originating from the subsurface soil during construction activities.)*

For the railroad right-of-way surface soils, the total carcinogenic risk is attributable mainly to PCBs and has been estimated at 1×10^{-4} for a child trespasser. The total non-carcinogenic risk for the railroad right-of-way is also attributable to PCBs and is estimated to have a Hazard Index of 12 for child trespassers and five for adolescent trespassers. Surface soils in the moat area were estimated to result in a total carcinogenic risk of 2×10^{-4} and this risk was attributed mainly to PCBs and arsenic. EPA calculations for a worker having unrestricted access to the moat area resulted in a non-cancer hazard greater than one. It was primarily the PCBs in the moat area surface soils that contributed to the Hazard Index of 3.5 for those soils. These risk estimates are summarized on Table 1. Table 2 is a comparison of health-based and Pennsylvania Act 2 cleanup levels with levels of contaminants detected in surface and subsurface soils. The risk estimates were developed taking into consideration various conservative assumptions regarding the toxicity of the contaminants and regarding the likelihood of a person being exposed to the soil or other media. *(Note that individual chemical concentrations at the 1×10^{-4} carcinogenic level are not shown on Table 2 because the combined cancer risk from all chemicals at this level would exceed 1×10^{-4}, which is the upper end of the acceptable risk range. Note also that the abbreviation, "EPC," found at the top of one of the vertical columns in Table 2, stands for "exposure point concentration.")*

Although the alluvial aquifer at the Site is significantly contaminated with Site-related compounds, notably PCBs, chlorinated aliphatic hydrocarbons, and chlorinated benzenes, it is not evident that the contaminants in the Site soils, even at the present concentrations, are significantly impacting the ground water. There appear to be no impacts from the Site to the

bedrock aquifer, and the Site-related ground water contamination appears to be confined to the alluvial aquifier. It also appears that the alluvial aquifier is not impacting the nearby Shenango River. Analyses of ground water in wells at the Site have not indicated that ground water contaminant concentrations are increasing or that the area of contaminated ground water is increasing.

Westinghouse evaluated risk to the environment at the Site in a document entitled "Screening-Level Ecological Risk Assessment For The Former Sharon Transformer Plant, Sharon, Pennsylvania." That document primariily evaluated ecological risks relating to sediments, surface water, and biota in the vicinity of the Shenango River. Onsite and near-Site areas, including the railroad and moat areas, were determined to be unlikely to provide adequate habitat for a self-sustaining wildlife community due to their small size, their fragmented and isolated nature, their lack of running water, and the presence of a fence securing the moat area. Therefore, these onsite and near-Site areas were not quantitatively nor qualitatively evaluated in the screening-level ecological risk assessment.

The response action selected in this Record of Decision is necessary to protect public health or welfare or the environment from actual or threatened releases of hazardous substances into the environment.

VII. REMEDIAL ACTION OBJECTIVES

The remedial action objective for Operable Unit One at this Site is to reduce to acceptable levels for industrial use the risk posed by contaminated Site soils. This remedial action will be accomplished by excavation and off-site disposal or covering of contaminated soils exceeding risk-based concentrations, along with appropriate deed restrictions to limit use of remediated soils areas. Treatment of some portions of the soil might be required to meet Land Disposal Restrictions in order for those portions to be acceptable for offsite disposal.

VIII. SUMMARY OF ALTERNATIVES

The Superfund law (CERCLA) requires that any remedy selected to address contamination at a Superfund site must be protective of human health and environment, cost-effective, comply with substantive regulatory and statutory provisions that are applicable or relevant and appropriate requirements (ARARs), and consistent with the NCP to the extent practicable. The Superfund law also expresses a preference for permanent solutions, for treating hazardous substances onsite, and for applying alternative or innovative technologies. During the development of the soils FS, a number of methodologies for addressing the remediation of the Site soils were considered. For the purposes of the soils FS, five (5) remedial action alternatives were ultimately evaluated for the railroad property and/or the moat surface soils; three remedial action alternatives were ultimately evaluated for subsurface soils at the Site. All of these alternatives were developed assuming that the Site would continue to be industrial property into the foreseeable future. Cost estimates encompass the capital, construction, and operation and

maintenance costs, including long-term monitoring costs, incurred over the life of the project (assumed to be 30 years), expressed as the net present worth of these costs. A discount rate of five percent is used for costs incurred in the future. The FS attempted to evaluate costs to within +50 percent and -30 percent of the actual costs. The following is a summary of the alternatives that were evaluated for the railroad property surface soils and/or the moat surface soils in the FS report:

- Railroad and Moat Soil Alternative1--No Action

The NCP, at 40 C.F.R. § 300.430(e)(6), requires the development of the No Action alternative for remedial actions. Under the No Action alternative, no remedial actions would be taken to remove, control migration from, or minimize exposure to, contaminated soil. No effort would be made to control the future use of the contaminated areas. Existing contaminated soil would remain in place in both the moat and the railroad property areas. No capital costs would be incurred, and no ARARs would be considered under this alternative. Annual operation and maintenance (O&M) cost, due to the annualized cost estimate for five-year reviews, is $3,750. The net present worth of the No Action alternative is estimated to be $57,647.

- Moat Soil Alternative 2--Fencing and Deed Restrictions

This alternative applies only to the onsite moat area and not to the railroad property. (*The railroad property is owned and used by Pennsylvania Lines, LLC. Fencing of the railroad property would reduce its usefulness for active rail commerce.*) Under this alternative, the fence currently in place to restrict access to the moat area would be maintained and deed restrictions (e.g., easements and covenants, title notices and land use restrictions through orders from or agreements with EPA) would be established in order to limit the potential for human exposures to unacceptable risks. Specifically, the deed restrictions would provide for worker safety, limit soil disturbance, prevent the installation or use of groundwater wells and prevent use of the Site for residential purposes. No attempt would be made to treat, cover, or remove contaminated soils currently existing in the moat. The ARAR is the Toxic Substances Control Act and its implementing regulations found at 40 C.F.R. § 761.6 1.

The estimated capital cost of the alternative is $19,313, and the estimated annual O&M cost is $6,875. The estimated net present worth of this remedy is approximately $125,000.

- Railroad and Moat Alternative 3--Cover Systems

This alternative would consist of the placement of either a soil cover, low-permeability cap, asphalt cap, or soil/ballast cover over the surface soils on the railroad property and the moat. The deed restrictions of Alternative 2 would also be included for the moat area cover system. The soil cover would consist of at least 12 inches of clean soil placed atop the contaminated area, with appropriate erosion and surface drainage controls. The low-permeability cap system would consist of erosion and drainage controls, at least six inches of clean soil placed on a high-density

polyethylene geomembrance, a geonet, a geotextile, 24 inches of clean soil and appropriate final cover (vegetation or stone). The asphalt cap, which is being considered for the railroad property only, would consist of a six-inch subbase layer and six inches of asphalt, with appropriate drainage controls. The soil/ballast cover alternative, also being considered for the railroad property only, would include 12 inches of clean soil and 12 inches of railroad ballast, or the equivalent. The applicable or relevant and appropriate requirements (ARARs) are the following: the Toxic Substances Control Act and its implementing regulations found at 40 C.F.R. § 761.61; the federally-approved State Implementation Plan for the Commonwealth of Pennsylvania, 25 Pa. Code §§ 123.1-123.2; and the National Ambient Air Quality Standards for Particulate Matter in 40 C.F.R. § 50.6 and Pa. Code §§ 131.2 and 131.3. Also, 40 C.F.R. § 6.302(b) addressing floodplains is a "to be considered" (TBC) requirement with regard to the excavation of contaminated soil. (*A "to be considered" requirement is one which is not an ARAR but which might provide useful information or recommended procedures. Examples of TBCs include guidance documents, policies, advisories and proposed standards.*) Estimate capital costs for this alternative range from $272,177 to $917,983. Estimated annual O&M costs range from $14,375 to $29,375. Net present worth estimates for this alternative range from $493,000 for the soil cover alternative to $1,369,000 for the asphalt cap over the railroad areas and a low-permeability cap over the moat area. Implementation time for design and onsite construction is estimated to be approximately 9 to 12 months.

- Railroad and Moat Alternative 4--Excavation and Offsite Disposal of Soil

Under this alternative, the affected surface soil would be excavated and taken offsite for appropriate treatment or disposal. Post-excavation sampling and analysis would be used to verify that contaminant concentrations in the remaining surface soils would be less than the required cleanup levels. The excavations would be backfilled with clean soil to current grades and revegetated or re-surfaced. The FS examined two variations of this alternative: (1) soils in the areas having PCB concentrations greater than 25 milligrams per kilogram of soil (25 mg/kg) would be excavated for offsite treatment/disposal; or (2) soils with PCB concentrations of greater than 100 mg/kg would be excavated, with the remaining soil being capped as described in Alternative 3. Any excavated soils that would fail the Toxic Contaminant Leaching Procedure (TCLP) for lead or arsenic would require treatment prior to land disposal. The ARARs associated with this alternative are the following: the Toxic Substances Control Act and it implementing regulations found at 40 C.F.R. § 761.61; the federally-approved State Implementation Plan for the Commonwealth of Pennsylvania, 25 Pa. Code §§ 123.1-123.2; and the National Ambient Air Quality Standards for Particulate Matter in 40 C.F.R. § 50.6 and Pa. Code §§ 131.2 and 131.3, the Resource Conservation and Recovery Act's Land Disposal Restrictions, 40 C.F.R. § 268.48-49; Pennsylvania's Residual Waste Management regulations concerning analysis of waste, 25 Pa. Code § 287.54; Pennsylvania's Residual Waste requirements, 35 P.S. § 6016.301-302; and the more stringent provisions of either 25 Pa. Code §§ 262a, 264a (Subchapter G, I and L) or 25 Pa. Code §§ 75.262 and 75.264(o), (q) and (t). Also, 40 C.F.R. § 6.302(b) addressing floodplains is a "to be considered" requirement with regard to the excavation of contaminated soil. Capital O&M estimates for this alternative range from $3,104,645 to $5,869,155. The annual O&M estimate

$14,375. Net present worth estimates for this alternative range from $3,600,112 for partial excavation with soil cover to $6,090,135 for full excavation with backfilling. Time required for implementation of these alternative variations is expected to range from 10 to 13 months.

- Railroad and Moat Soil Alternative 5--Insitu Treatment

For this alternative, the affected surface soil in the railroad and moat areas would be tilled to a depth of 18 to 24 inches, and one of two treatment methods, either a dechlorination process that uses a water-based liquid which strips chlorine atoms from PCB molecules, or an enhanced biodegradation process using specific microorganisms and soil nutrients, would be applied to the tilled soils. Post-treatment sampling and analysis would be used to verify that contaminant concentrations in the treated soils would be below the required cleanup levels. After successful treatment, the surface would be revegetated or resurfaced. Here, again the FS examined two variations based upon contaminant concentrations: (1) soils in the areas having PCB concentrations greater than 25 mg/kg would be treated; or (2) soils in the areas having PCB concentrations greater than 100 mg/kg would be treated, with the remaining soils being capped as described for Alternative 3. The ARARs associated with this alternative are the following: the Toxic Substances Control Act and its implementing regulations found at 40 C.F.R. § 761.61; the federally-approved State Implementation Plan for the Commonwealth of Pennsylvania, 25 Pa. Code §§ 123.1-123.2, and the National Ambient Air Quality Standards for Particulate Matter in 40 C.F.R. § 50.6 and Pa. Code §§ 131.2 and 131.3; Pennsylvania's Residual Waste Management regulations concerning analysis of waste, 25 Pa. Code § 287.54; Pennsylvania's Residual Waste requirements, 35 § P.S. 6016.301-302; and the more stringent provisions of either 25 Pa. Code §§ 262a, 264a (Subchapters M and O) or 25 Pa. Code §§ 75.262 and 75.264(o) and (u). Also, 40 C.F.R. § 6.302(b) addressing floodplains is a "to be considered" requirement with regard to the excavation of contaminated soil. Estimated capital costs range from $2,725,016 to $5,092,942. The estimated annual O&M cost for all variations of the alternative is $14,375. Net present worth estimates range from $2,946,000 for the partial dechlorination with soil cover option, to $5,314,000 for the full biodegradation option. It is estimated by EPA that this alternative can be designed and implemented with a 12-month period.

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As part of the FS, Westinghouse evaluated remediation alternatives for contaminated subsurface soils which are present under the existing Site buildings and under the large concrete-paved area between the Winner Steel Services building and the Middle Sector Buildings. (This area is called the "A/B slab.") The primary contaminant of concern, based upon potential direct contact exposures with the subsurface soils, is manganese. CBS Corporation (formerly Westinghouse) developed the following three remediation alternatives in the FS to reduce the likelihood of unacceptable human exposures, mitigate potential cross-media effects, and obtain compliance with ARARs relative to the subsurface soils:

- Subsurface Soil Alternative l--No Action

As noted above under Railroad and Moat Soil Alternative 1, the NCP requires the consideration of the No Action alternative. Under this alternative, no remedial actions would be conducted relating to the subsurface soils under the A/B slab. The existing concrete covering the soils, both inside the buildings and outdoors, would be left in its current condition. No costs would be incurred to implement this alternative.

- Subsurface Soil Alternative 2--Deed Restrictions

Under this alternative, deed restrictions (e.g., easements and covenants, title notices and land use restrictions through orders from or agreements with EPA) would be implemented to provide for worker safety, limit soil disturbance, prevent the installation or use of groundwater wells and prevent use of the Site for residential purposes. While such future construction would not be prohibited, the restrictions would prescribe specific procedures and notifications which would be required to be followed if any construction were to take place. The estimated capital cost is $45,063. The estimated annual O&M cost is $1,875. The estimated net present worth of this alternative–primarily associated with long-term inspections–is $73,900.

- Subsurface Soil Alternative 3--Asphalt Cap

This alternative would consist of supplementing the existing concrete A/B slab with an asphalt cap of sufficient thickness and strength to support the anticipated heavy industrial traffic on the surface. Areas adjacent to the former Y-Building would be included in the asphalt paving. Improvements to surface water drainage and collection would be made. The deed restrictions noted in Subsurface Soil Alternative 2, above, would be included in this alternative. ARARs associated with this alternative are the following: the Toxic Substances Control Act and its implementing regulations found at 40 C.F.R. § 761.61; the federally-approved State Implementation Plan for the Commonwealth of Pennsylvania, 25 Pa. Code §§ 123.1-123.2; and the National Ambient Air Quality Standards for Particulate Matter in 40 C.F.R. § 50.6 and Pa. Code §§ 131.2 and 131.3. Also, 40 C.F.R. § 6.302(b) addressing floodplains is a "to be considered" requirement with regard to the excavation of contaminated soil. The estimated capital cost is $644,670. The estimate annual O&M cost is $31,250. The estimated net present worth of this alternative is $1,125,000. Design and construction of this alternative is estimated to require 8 to 12 months.

In addition to the alternatives delineated in the soils FS, EPA has the option to combine selected portions of various alternative to form "hybrid" alternatives, or to develop additional alternatives as part of the decision-making process.

IX. COMPARATIVE ANALYSIS OF ALTERNATIVES

This section provides a description of the nine criteria EPA uses to evaluate alternatives,

as set forth at 40 C.F.R. § 300.430(f)(5)(I), and an analysis of the alternatives considered in the soils FS for the Site. The evaluation criteria are as follows:

- Overall Protection of Human health and the Environment – addresses whether a remedy provides adequate protection and describes how risks are eliminated, reduced or controlled.

- Compliance with ARARs – addresses whether a remedy will meet all of the applicable or relevant and appropriate requirements of environmental statutes.

- Long-Term Effectiveness and Permanence – refers to the ability of a remedy to maintain reliable protection of human health and the environment over time once cleanup goals are achieved.

- Reduction of Toxicity, Mobility, or Volume – is the anticipated performance of the treatment technologies that a remedy might employ.

- Short-Term Effectiveness – addresses the period of time needed to achieve protection and any adverse impacts on human health and the environment that may be posed during the construction and implementation period until cleanup goals are achieved.

- Implementability – the technical and administrative feasibility of a remedy, including the availability of materials and services needed to implement a particular option.

- Cost – includes estimated capital and operation and maintenance costs, generally expressed as net present worth.

- State Acceptance – indicates whether, based on its review of the FS and Proposed Plan, the State concurs with, opposes, or has no comment on the preferred alternative(s).

- Community Acceptance – will be assessed in the Record of Decision following a review of public comments received on the RI and FS reports and the Proposed Plan.

• Surface Soil Alternative 1: No Action

The No Action Alternative is required for consideration by the NCP and this alternative was, accordingly, considered for all Site areas having contaminated soils. Under the No Action Alternative, no remedial actions would be taken to remove, control migration from, or minimize exposure to, contaminated soils at the Site. Because it has been determined that significant risks

exist due to the contamination in the soils at the Site, the No Action alternative would not be protective of human health. The No Action alternative would not reduce the mobility, toxicity or volume of the soil contaminants, and also would not comply with TSCA, fugitive dust, RCRA Land Disposal Restrictions, Pennsylvania Residual Waste requirements and hazardous waste ARARs or floodplain requirements.

- Surface Soil Alternative 2 (Moat area only): Fencing and Deed Restrictions:

TSCA regulations promulgated in 1998 permit the use of a site-specific risk assessment in determining whether cleanup action is required in a particular situation and in determining remediation required. The baseline risk assessment for the Site has determined that moat surface soils would be protective at the 1×10^{-6} carcinogenic level if approximately two parts per million (ppm) of PCBs remain in the surface soil of the moat with no further controls or restrictions. However the surface soils contain moderate concentrations of PCBs. For example, PCB Aroclor 1248 is found at concentrations up to 120 ppm. Fencing and deed restrictions are controls which do not reduce the mobility, toxicity or volume of the soil contaminants. The permanence of fencing, in particular, is questionable since fences are subject to vandalism and other physical damage and must be constantly maintained. The moderate cost of this alternative is one of its more attractive aspects. It is questionable whether this alternative would comply with ARARs since the alternative would essentially require constant oversight.

- Railroad Property and Moat Surface Soil Alternative 3: Cover Systems

Appropriately designed cover systems as described for Alternative 3 could result in protectiveness in the moat area but are less practical and/or less implementable for the railroad property. Cover systems on the railroad would present unusual design challenges because of the narrowness of the property and because of the presence and operation of the railroad itself. Also, cover systems would require frequent inspection and maintenance and could present a hindrance to track operation and maintenance since such systems would raise the elevation(s) of portions of the railroad property and could possibly be damaged by railroad maintenance vehicles and other forms of traffic. The aspect of permanence for such cover systems relative to the railroad property is, therefore, questionable. However, assuming that such cover systems could be constantly maintained in an undamaged state, they would comply with ARARS. The costs associated with such systems are moderate.

- Railroad and Moat Surface Soil Alternative 4: Excavation and Offsite Disposal of Soil

This alternative is quite implementable using ordinary excavation equipment, and offsite disposal facilities are readily available. The alternative would comply with ARARs and would result in a high degree of protectiveness for areas in which it is implemented. The estimated implement time is relatively short. The cost of the alternative ranges from moderate for the partial excavation scenario to moderately expensive for the complete excavation scenario.

- Railroad and Moat Surface Soil Alternative 5: Insitu Treatment

No site-specific treatability studies were conducted to determine whether any insitu treatment using microorganisms or any insitu treatment using any dechlorination process would function satisfactorily for the soil varieties, moisture conditions, temperature variations, etc., that occur at the Site. Judgments regarding implementability would have to be based upon a research review of individual biological and dechlorination processes that have been performed in similar situations at other sites. The implementability of this alternative is, therefore, speculative. Assuming that the alternative is implementable and would reduce PCB concentrations to protective levels, the alternative would comply with ARARs and would meet the statutory preference for cleanup actions that reduce the toxicity, mobility or volume of contaminants. Insitu treatment would not require the offsite transportation and disposal of contaminated soils. The estimated time for design and implementation is relatively short. The costs for the alternative range from moderate for the partial dechlorination scenario to moderately expensive for the full biodegradation option.

- Subsurface Soil Alternative 1: No Action

Subsurface PCB concentrations which exceed levels that would be protective of human health have been determined in the moat area, and in the truck roadway at the northwestern corner of the Winner Steel Services building. Additionally, elevated manganese levels were determined at one subsurface soil boring location (boring TB-8) under the concrete-covered open area (the "A/B slab") between the Winner Steel Services building and the Middle Sector Buildings. The No Action alternative would provide an insufficient degree of protectiveness relative to the contaminants of concern.

- Subsurface Soil Alternative 2: Deed Restrictions

The implementation of deed restrictions would provide a reasonable degree of protectiveness assuming that those restrictions would remain in effect and would be enforced. Deed restrictions would not reduce the toxicity, volume or mobility of the contaminants of concern. It is questionable whether this alternative would comply with ARARs since the alternative would essentially require constant oversight.

- Subsurface Soil Alternative 3: Asphalt Cap

This alternative is intended to address conditions at the former "Y" building and in the area of the A/B slab (between the Winner Steel Services building and the Middle Sector Buildings) but not to address subsurface conditions in other areas of the Site (e.g., the moat). The alternative would provide a reasonable degree of protectiveness assuming that the deed restrictions, which are part of the alternative, would remain in effect and would be enforced. Asphalt is subject to aging and deterioration and unless the asphalt cap is periodically inspected and repaired, its permanence and long-term effectiveness would be of concern. The asphalt cap

would not reduce the toxicity, mobility or volume of the contaminants in the areas that would be addressed by the alternative. The alternative would likely comply with the ARARs, TSCA and its implementing regulations found at 40 C.F.R. § 761.61. The cost to implement the asphalt cap alternative is moderate.

With respect to the community and State acceptance criteria, EPA received no comments on any but the proposed remedial action alternative for soils. For a summary to community's comments and EPA's response to those comments, see the Responsiveness Summary section of this Record of Decision. The Commonwealth of Pennsylvania has concurred on this Record of Decision.

X. PRINCIPAL THREAT WASTE

EPA does not believe that soil contamination at the Site constitutes a principal threat requiring treatment because there are no liquid wastes, sludges, or highly mobile materials in the soil that cannot be reliably controlled in place. In addition, implementation of the remedial action will eliminate unacceptable exposure to any contamination left in place. Finally, the PCB concentrations found in Site soils during the Remedial Investigations do not pose a potential risk several orders of magnitude greater than the risk level that is acceptable for the current or reasonably anticipated future industrial land use, given realistic exposure scenarios.

XI. EPA'S SELECTED REMEDY

For the purposes of soils remediation at the Site, EPA will define the term "surface soil" to include all soils from the ground surface to a depth of two (2) feet. "Subsurface soil" will be defined as soil below a depth of two feet. To address the contamination present in these soils, EPA's selected remedy combines portions of the various alternatives discussed previously with additional alternatives developed by EPA. The following remediation scenarios are EPA's selected remedy for the various areas of soil onsite:

Railroad Property Surface Soil and Adjoining Soil Areas West of the Middle Section Building

All areas of the railroad property having total PCB concentrations of 25 ppm or greater (to approximately correspond with a 3×10^{-6} carcinogenic risk level), arsenic concentrations greater than 104 ppm (to correspond with the 1×10^{-5} carcinogenic risk level), or lead (Pb) concentrations greater than 1,000 ppm in the upper 10 inches of the surface soils will have the contaminated soil removed to the full depth of 10 inches. *(The 10-inch depth is derived from EPA's 1987 Polychlorinated Biphenyls Spill Cleanup Policy, 40 C.F.R. § 761.125, which is used as a "To Be Considered" reference for the purposes of this aspect of the cleanup. EPA assumes that the greatest potential for exposures to soil contaminants by human receptors, and the greatest potential for disturbance of surface soils by vehicles involves the top ten inches of the surface soil.)* In the soil interval from ten inches to 24 inches, all soil will be excavated where the concertrations of PCBs exceed 71 ppm (to correspond with the 1×10^{-5} carcinogenic risk

level); and arsenic exceeds 104 ppm; and/or lead (Pb) exceeds 1000 ppm. It is assumed that benzo[a]pyrene and dioxin, which were also detected on the railroad property in low concentrations, will be remediated as a result of the remediation of the soils for the other contaminants. (*It should be noted that the maximum detected concentrations of both benzo[a]pyrene and dioxin are within acceptable risk-based levels.*) These cleanup actions will reduce the current carcinogenic risk (1.1×10^{-4}) posed by all contaminants of concern to acceptable levels. The current non-carcinogenic Hazard Index (11.5) will be reduced to less than one (1.0).

The excavated materials will be disposed of offsite, and the excavations will be backfilled with clean fill material. In order to meet the requirements of the Land Disposal Restrictions promulgated under the Resource Conservation and Recovery Act, 40 C.F.R. § 268.48-49, treatment of any soil that fails the TCLP for lead or arsenic will be required prior to land disposal of that soil. Areas of soil currently overlain with serviceable railroad track on top of stone ballast will not be excavated because it is assumed that the stone ballast provides a protective cover between the potentially-contaminated soil underlying the ballast and potential receptors. Rail lines on contaminated soil without an intervening ballast layer will have the contaminated soil excavated as noted above.

Deed restrictions (e.g., easements and covenants, title notices and land use restrictions through orders from or agreements with EPA) will be implemented in order to provide for worker safety, limit soil disturbance, prevent the installation or use of groundwater wells and prevent use of the Site for residential purposes.

Because the railroad property soils were sampled only on the east side of the tracks for the Remedial Investigation, sampling to characterize the soils on the west side of the tracks will be done as a Pre-Design or Design activity. Remediation scenarios for those soils will be the same as for the railroad property soils on the east side of the tracks.

Moat Surface and Subsurface Soil

Existing moat surface and subsurface soils exceeding 689 ppm PCBs will be excavated and disposed of offsite. Because of the presence of a storm water sewer line which runs the length of the moat, and because soil excavations might have the potential to damage that line, the actual depth of excavations will be determined as part of the Remedial Design. In order to meet the requirements of the Land Disposal Restrictions promulgated under the Resource Conservation and Recovery Act, 40 C.F.R. § 268.48-49. treatment of any soil that tails the TCLP for lead or arsenic will be required prior to land disposal of that soil. The moat will be covered with at least two (2) feet of clean fill materials (containing less than 1 ppm PCBs), or with at least 14 inches of fill materials, excavated from other areas onsite, if the total PCB concentration of that fill soil does not exceed 25 ppm, followed by a minimum of ten inches of clean fill material (containing less that 1 ppm PCBs), adding up to a total of at least 24 inches of cover material. Under this remediation scenario, the soils remaining after excavation of soils

containing greater that 689 ppm PCBs will become "subsurface soils" because at least two feet of fill material will have been placed over those soils. These actions will effectively reduce the risk attributable to PCBs in the subsoils from the current level of 1.2×10^{-6}. All subsoils containing up to 689 ppm PCBs will then meet the 1×10^{-6} carcinogenic risk level. Additionally, through implementation of these cleanup actions, the carcinogenic risk currently calculated at 1.8×10^{-4} for existing levels of contaminants in surface soils will be reduced to less than 1×10^{-6}, and the Hazard Index for surface soils, currently calculated to be 3.5, will be reduced to less than 1.0. Deed restrictions, as described above for the railroad property, will be established for the moat area.

Area Between Winner Steel Service Building and the Middle Sector Buildings (the A/B Slab Area)

The risk calculations for this area were based upon the scenario of an unprotected worker being exposed primarily to manganese (Mn). EPA proposes no specific physical remediation for the soils in the major portion of this area since the major portion of the area is paved and the likelihood that the given exposure scenario will occur is minimal. However, the pavement in the area of the A/B slab immediately north of the Winner Steel Services (WSS) building is used as a truck roadway by WSS and is highly fractured because of heavy truck traffic. This area has been observed to generate considerable amounts of dust as a result of the truck traffic. Soils samplings below two feet in that area did not reveal a significant human health risk resulting from Site-related contaminants. However, only minimal sampling and analysis of the soils immediately beneath the pavement in the A/B slab area was conducted during the Remedial Investigation. Therefore, the concentrations of contaminants, if any, in the surface soils in the A/B slab area immediately north of the WSS building, where the pavement has been fractured by truck traffic, are unknown. As such, the surface soils (from ground level to a depth of two feet) in this area of fractured pavement will be adequately sampled and analyzed for Site-related contaminants, including, but not limited to, PCBs, lead and arsenic, as part of a Pre-Design or Design activity. If found to be contaminated, this area, or the contaminated portions thereof, will be remediated according to the following remediation senarios:

1. One of the concerns is that contaminated dust generated by vehicular traffic might adversely impact nearby residents. If the truck roadway area is to remain unpaved, i.e., gravel-covered soil or fractured pavement, then surface soils (to a depth of 10 inches) containing greater than 1 ppm PCBs, 1,000 ppm lead, or 104 ppm arsenic will be excavated and disposed of at permitted offsite disposal facilities, or may be used as fill material in other areas onsite (if PCB concentrations are less that 25 ppm, lead is less than 1,000 ppm, and arsnic is less than 104 ppm). Soils from a depth of 10 inches to 24 inches which exceed 25 ppm PCBs, 1,000 ppm lead, or 104 ppm arsenic will be excavated and disposed of offsite. In order to meet the requirements of the Land Disposal Restrictions promulgated under the Resource Conservation and Recovery Act, 40 C.F.R. § 268.48-49, treatment of any soil that the TCLP for lead or arsenic will be required prior to land disposal of that soil. The excavations will then be backfilled with clean fill material suitable for supporting truck traffic. It is expected that exposed surface soil remediated

to the 1 ppm level for PCBs would not exceed a 4 x 10^{-6} risk to the nearby residents. *(The cleanup level under this scenario assumes that truck traffic will result in dust generation and constant degradation of the roadway surface. The cleanup is intended to minimize the direct contact, ingestion, and inhalation of dusts by potential human receptors, and to minimize the possibility of the contamination and tracking of the ponded rain water associated with an unpaved roadway.)*

2. If the truck roadway area is to be paved with concrete or with asphalt of sufficient strength to support the anticipated vehicular traffic, then the surface soils will be excavated so that no PCBs at concentrations greater than 25 ppm, lead concentrations greater than 1,000 ppm, or arsenic concentrations greater than 104 ppm remain in the soil to a depth of 24 inches for the entire area of the roadway. Contaminated soils will be disposed of offsite. In order to meet the requirements of the Land Disposal Restrictions promulgated under the Resource Conservation and Recovery Act, 40 C.F.R. § 268.48-49, treatment of any soil that fails the TCLP for lead or arsenic will be required prior to land disposal of that soil. The excavations will then be backfilled with fill materials which are suitable to bear the weight of the expected truck traffic, and which do not exceed the required concentrations for PCBs, lead and arsenic if the fill materials are excavated from other areas onsite, or which do not exceed 1 ppm PCBs if the fill materials are imported from offsite. The roadway will then receive road bed material, as appropriate, followed by the asphalt or concrete paving.

3. Deed restrictions, as noted above for the railroad property, will be instituted for the area.

South Sector (Winner Steel Services) Truck Roadway and Railroad Spur

Post RI sampling and analysis by Winner Steel Services (WSS) has demonstrated that portions of the existing truck roadway on the west side of the WSS building are contaminated with PCBs. WSS has voluntarily removed more than 1000 cubic yards of PCB-contaminated soil from the truck roadway and has sent that contaminated soil to offsite disposal facilities. However, PCBs in concentrations up to 9900 ppm remain in the subsoils. WSS anticipates that it will construct a railroad spur which will run parallel with the west side of the building and which will cover the entire existing truck roadway on that side of the WSS building. As such, for surface soils, the portion of the current truck roadway that will be used solely for the railroad spur and its required drainageways, etc., will be remediated consistent with the railroad property remediation described above. (EPA believes that the remediation would be most efficient and cost-effective if that remediation were to take place prior to the construction of the railroad spur.) EPA anticipates that these cleanup actions for surface soil will reduce risks to the levels similar to the levels brought by the cleanup delineated for the railroad property described above.

All subsurface soils, in the current the truck roadway on the west side of the WSS building, having PCB concentrations exceeding 689 ppm (to be consistent with subsurface soil cleanup levels proposed for the adjacent moat area) will be excavated for offsite disposal to a

depth of 10 feet *[Subsurface soils adjacent to or underlying building walls or foundations, which, if excavated, would likely, as determined by engineering evaluation, compromise the structural integrity of the building(s), will be left in place, but only in the smallest quantities required to maintain structural integrity of the buildings. Areas and amounts of contaminated soil left in place under these circumstances will be noted and recorded in the remedial action report having been left undisturbed.]* In order to meet the requirements of the Land Disposal Restrictions promulgated under the Resource Conservation and Recovery Act, 40 C.F.R. § 268.48-49, treatment of any soil that fails the TCLP for lead or arenic will be required prior to land disposal of that soil. It is expected that these cleanup actions for subsoils will result in risk reductions similar to the levels brought by the cleanup delineated for the moat area subsoils.

Deed restrictions, as noted above for the railroad property, will be instituted for the WSS property.

North Sector (AK Steel Corporation property) Soils

Soil samples obtained in 1985 and in 1988 indicated that low to moderate concentrations of PCBs exist in the surface soils in the North Sector. Those soil samplings were not included in the risk assessment for the Site because they were not subjected to validation procedures. Most of the North Sector is covered by buildings and the few exposed soil areas that remain are predominantly parking areas and roadways for trucks and heavy hauling equipment. To determine the extent of remediation required, the soil areas of the North Sector will be adequately characterized for Site-related contaminants, including but not limited to PCBs, lead and arsenic, as part of Pre-Design or Design activities. Since these are roadways for heavy machinery, the surface soil (to a depth of 24 inches) remediation procedures for the North Sector soil will be the same as the remediation procedures delineated above for the Winner Steel Services truck roadway portion of the A/B Slab Area since one of the concerns is that contaminated dust generated by vehicular traffic might adversely impact nearby residential properties. (It is expected that, as with the A/B Slab area, surface soil remediated to the 1 ppm level for PCBs would not exceed a 4×10^{-6} risk to the nearby residents.) Additionally, subsurface soils (below 24 inches) having PCB concentrations in excess of 689 ppm will be excavated to a depth of 10 feet. It is anticipated that, following the cleanup of the subsurface soils, the risks due to the remaining soils will be similar to the risks posed by remaining subsoils in the moat area as described above. *[Subsurface soils adjacent to or underlying building walls or foundations, which, if excavated, would likely, as determined by engineering evaluation, compromise the structural integrity of the building(s), will be left in place, but only in the smallest quantities required to maintain structural integrity. Areas and amounts of contaminated soil left in place under these circumstances will be noted and recorded in the remedial action report as having been left undisturbed.]* Deed restrictions, as noted above for the railroad property, will be instituted for the North Sector.

"Y" Building (American Industries) Soils

The soils of the former "Y" building area, located in the southwestern portion of the Site, were inadequately characterized during the Remedial Investigation. The major portion of the parcel is covered by the former "Y" building. Soil samples were obtained from only one soil boring location on the property; the analyses of those samples showed no PCB contamination. However, minor PCB-related activities took place in this area for a limited period of time. As such, the soils adjacent the "Y" building will be adequately characterized for Site-related contaminants as part of Pre-Design or Design activities. Since this property is outside of the major portion of the industrial complex which formed the former Westinghouse facility, and is more publicly accessible, the soil cleanup requirements for the south, east, and north portion of this area will be consistent with the cleanup requirements for the WSS truck roadway portion of the A/B Slab Area, as noted above. Because these are roadways for heavy machinery, remediation procedures for the "Y" Building surface soil (to a depth of 24 inches) will be the same as the remediation procedures delineated above for the Winner Steel Services truck roadway portion of the A/B Slab Area surface soil since one of the concerns is that contaminated dust generated by vehicular traffic might adversely impact nearby residents. (It is expected that, as with the A/B Slab area, exposed surface soil remediated to the 1 ppm level for PCBs would not exceed 4×10^{-6} risk to the nearby residents.) Additionally, subsurface soils (below 24 inches) haying PCB concentrations in excess of 689 ppm will be excavated to a depth of 10 feet. EPA believes that, following the cleanup of the subsurface soils, the risks due to the remaining soils will be similar to the risks posed by remaining subsoils in the moat area, as described above. *[Subsurface soils adjacent to or underlying building walls or foundations, which, if excavated, would likely, as determined by engineering evaluation, compromise the structural integrity of the building(s), will be left in place, but only in the smallest quantities required to maintain structural integrity. Areas and amounts of contaminated soil left in place under these circumstances will be noted and recorded in the remedial action report as having been left undisturbed.]* The soil cleanup requirements for soils on the west side of the building will be consistent with the requirements for cleanup of the railroad property, as noted above. Deed restrictions, as noted above for the railroad property, will be instituted for the "Y" building.

The Soil Area of the Former Tank Farm Immediately West of the Middle Sector Buildings

In October 1999, CBS dismantled several large vertical tanks located immediately west of the Middle Sector Buildings that had formerly been used to store liquids. The removal of the tanks left a small area of soil exposed that had not previously been exposed. A sample of oily water on the surface of the soil that remained following the removal of the tanks was analyzed. That analysis revealed a total PCB concentration of 680 milligrams per liter (mg/l). The analytical results of this sampling indicate that the soils within the former tank area are potentially contaminated with PCBs. The small area of exposed soil is approximately 35 feet by 150 feet on the surface. The soils of this area were not sampled during the Remedial Investigation activities.

To determine the extent of remediation required, the exposed soil of the Tank Farm Area will be adequately sampled and analyzed for Site-related contaminants, including but not limited to PCBs, lead and arsenic as part of Pre-Design or Design activities. Because the Tank Farm Area has the potential to be used by trucks and heavy machinery, the surface soil (to a depth of 24 inches) remediation procedures for the area will be the same as the remediation procedures delineated above for the Winner Steel Services truck roadway portion of the A/B Slab Area since one of the concerns is that contaminated dust generated by vehicular traffic might adversely impact nearby residents. (It is expected that, as with the A/B Slab area, exposed surface soil remediated to the 1 ppm level for PCBs would not exceed a 4×10^{-6} risk to nearby residents.) Additionally, any subsurface soils (below 24 inches) having PCB concentrations in excess of 689 ppm will be excavated to a depth of 10 feet. EPA believes that, following the cleanup of the subsurface soils, the risks due to the remaining soils will be similar to the risks posed by remaining subsoils in the moat area, as described above. *[Subsurface soils adjacent to or underlying building walls or foundations, which, if excavated, would likely, as determined by engineering evaluation, compromise the structural integrity of the building(s), will be left in place, but only in the smallest quantities required to maintain structural integrity. Areas and amounts of contaminated soil left in place under these circumstances will be noted and recorded in the remedial action report as having been left undisturbed.]* Deed restrictions, as noted above for the railroad property, will be instituted for the Middle Sector including the Tank Farm Area.

The Selected Remedial Alternatives will meet the objective of reducing the risk to human health currently posed by the Site soils to acceptable levels assuming that the Site properties will remain under industrial uses into the foreseeable future. EPA believes that the Selected Remedial Alternatives described in this ROD will have a net present worth of between $4 million and $6 million. This cost estimate is based on the best available information obtained from several sources regarding the anticipated scope of the remedial alternative. EPA currently estimates that between 20,000 and 30,000 tons of soil will require remediation. EPA's present worth remedy estimate is based on a $179/ton estimate for excavation at, and off-site disposal of, contaminated Site soil. The estimated cost per ton of soil increases to approximately $200 to account for possible treatment to meet Land Disposal Restriction requirements and for additional characterization studies to be conducted during the remedial design. Changes in this cost estimate may occur as a result of new information and data collected during the engineering design and further Site soils characterization of the remedial alternative.

EPA believes that the Selected Remedial Alternatives delineated above will be protective, will comply with TSCA and its regulations, 40 C.F.R. § 761.61; the requirements of the federally-approved State Implementation Plan for the Commonwealth of Pennsylvania, 25 Pa. Code §§ 123.1 - 123.2; the National Ambient Air Quality Standards for Particulate Matter in 40 C.F.R. § 50.6; Pa. Code §§ 131.2 and 131.3 to control fugitive dust emissions generated during remedial activities; the Resource Conservation and Recovery Act's Land Disposal Restrictions. 40 C.F.R. §§ 268.48-49; Pennsylvania's Residual Waste Management requirements, 35 P.S. § 6016.301-302; and the more stringent provisions of either 25 Pa. Code §§ 262a, 264a

(Subchapters G, I and L) or 25 Pa. Code §§ 75.262 and 75.264(o), (q) and (t). The Selected Remedial Alternatives also take into consideration 40 C.F.R. § 6.302(b), which addresses floodplains; EPA's "Management of Remediation Waste Under RCRA," EPA530-F-98-026, October 14, 1998, which addresses Areas of Contamination in which contaminated soils are to be consolidated; and EPA's 1987 Polychlorinated Biphenyls Spill Cleanup Policy, 40 C.F.R. § 761.125, as "To Be Considered" guidances. EPA believes that the Selected Remedial Alternatives are cost effective. EPA also believes that the Selected Remedial Alternatives will reduce the volume of the contaminants currently in the Site soils, and will reduce the mobility of the contaminants remaining in the soils. The overall risk to human health and the environment resulting from the Site soils will be reduced following remediation because the concentrations of the contaminants will be reduced by the remedial actions.

XII. PERFORMANCE STANDARDS

Samples will be obtained of soils remaining following excavations of contaminated soils to confirm that the remaining soils meet the cleanup criteria set forth for the various Site soil areas, as noted above. Satisfactory soil cleanup may be determined by using the following methods:

1. Soil excavations and removal of contaminated soils will be considered to be satisfactory when the confirmatory soil samples demonstrate that the contaminant levels remaining in the soil provide a statistical confidence level of at least 95 percent that the required cleanup levels have been attained for any particular area, or, alternatively,

2. Soil excavations and removal of contaminated soils will be considered to be satisfactory for a particular area when the confirmatory soil samples demonstrate that no contaminants remain in any sample of the soil above the allowable concentrations.

The Remedial Design for the soil cleanup will delineate which of the two methods noted above will be utilized for each of the Site soil areas. The Remedial Design will also provide the details of the sampling frequencies, the sampling methods, the analytical methods, and the statistical methods that will be used to assure that the required soil cleanup concentrations are achieved.

XIII. COMMUNITY PARTICIPATION

Pursuant to 40 C.F.R. § 300-430(c), a Community Relations Plan was developed for the Site. In compliance with Sections 113(k)(2)(B)(I-v) and 117 of CERCLA, the Administrative Record, including the Proposed Remedial Action Plan, was placed for public consideration at the Shenango Valley Community Library in the City of Sharon, Pennsylvania. An announcement of the availability of the Administrative Record was published in the Youngstown Vindicator and

the Sharon Herald on June 11, 1999. The Administrative Record included the FS Report which listed the alternatives considered for the contaminated soils at the Site. A period of public review and comment on the Proposed Remedial Action Plan was held from June 11 through July 10, 1999. A meeting regarding the Proposed Remedial Action Plan was scheduled with local officials on June 24, 1999. A Mercer County Commissioner attended that meeting. A public meeting regarding the Proposed Remedial Action Plan was also held on June 24, 1999 at the City of Sharon Municipal Building. A transcript of that meeting is included in the Administrative Record. All documents relevant to the development of the Remedial Investigation, the Feasibility Study for soils, and this Record of Decision were produced under the auspices of, or in cooperation with, the Pennsylvania Department of Environmental Protection (PADEP).

XIV. STATUTORY DETERMINATIONS

The selected remedial alternatives satisfy the requirements of CERCLA and the NCP. The remedy is expected to be protective of public health and welfare and the environment complies with ARARs, is cost-effective, and utilizes permanent solutions to the maximum extent practicable. The remedy does not satisfy the statutory preference for treatment as a principal element of the remedy because treatment would result in extraordinarily high costs with no significant increase in protectiveness and because no source materials constituting principal threats will be addressed within the scope of this action. Because the selected remedy will result in hazardous substances, pollutants or contaminants above levels that allow for unlimited use and U.S.C. § 9621(c), will be conducted within five years after initiation of the remedy to ensure that the remedy is providing protection of public health and welfare and the environment. The following sections discuss how the selected remedy for Operable Unit One meets the statutory requirements of CERCLA:

A. Protection of Human Health and the Environment

EPA has determined, based upon the baseline Human Health Risk Assessment for the Site, that measures should be undertaken to reduce potential risk from soil contaminants, including PCBs, lead and arsenic. These contaminants in onsite soil were selected because potential health risks for some exposure scenarios exceed EPA's target range of 1.0×10^{-4} and 1.0×10^{-6} for lifetime cancer risk or a non-cancer Hazard Index of one (1.0). EPA has determined that the soil contaminants do not pose an unacceptable risk to ecological receptors.

The soil excavation and covering, and the deed restriction called for in the selected remedy will reduce human exposures to the soil contaminants currently posing a potential risk at the Site based upon the assumption that the Site properties will remain under industrial usages into the forseeable future.

Implementation of the selected remedy will not pose any unacceptable short term risks or

cross media impacts to the Site, or to the community.

B. Compliance with and Attainment of Applicable or Relevant and Appropriate Requirements (ARARs)

The selected remedy will comply with all applicable or relevant and appropriate chemical-specific and action-specific ARARs. There are no location-specific ARARs for the selected remedy. In addition, the selected remedy will meet all To Be Considered Standards (TBCs). Those ARARs and TBCs are the following:

15. Chemical-Specific ARAR

The Toxic Substances Control Act (TSCA), 15 U.S.C. § 2605, and its implementing regulations, 40 C.F.R. § 761.61, with respect to standards for the cleanup of PCB remediation waste.

PADEP has identified the Land Recycling and Environmental Remediation Standards Act, 95 Pa. Laws 2 (Act II), as an ARAR for this remedy; however, EPA has determined that Act II does not, on the facts and circumstances of the selected remedy, impose any requirements more stringent than the federal standards. Accordingly, soil cleanup standards under TSCA and 40 C.F.R. § 761.61 are applicable to the selected remedy.

16. Action-Specific ARARs

The requirements of the federally-approved State Implementation Plan for the Commonwealth of Pennsylvania, 25 Pa. Code §§ 123.1 - 123.2; the National Ambient Air Quality Standards for Particulate Matter in 40 C.F.R. § 50.6; Pa. Code §§ 131.2 and 131.3 to control fugitive dust emissions generated during remedial activities.

The requirements of Pennsylvania's Residual Waste Management regulations concerning analysis of waste, 25 Pa. Code § 287.54 and Pennsylvania's Residual Waste requirements, 35 P.S. § 6016.301-302.

The Land Disposal Restrictions of the Resource Conservation and Recovery Act, 40 C.F.R. § 268.48-49, to address treatment of lead- and arsenic-contaminated soil failing TCLP.

The more stringent provisions of either 25 Pa. Code §§ 262a, 264a (Subchapters G, I and L) or 25 Pa. Code §§ 75.262 and 75.264(o), (q) and (t).

17. To Be Considered Standards (TBC)

40 C.F.R. § 6.302(b) addressing EPA activities in floodplains.

EPA's "Management of Remediation Waste Under RCRA," EPA530-F-98-026, October 14, 1998 , addressing Areas of Contamination in which contaminated soils are to be consolidated.

EPA's 1987 Polychlorinated Biphenyls Spill Cleanup Policy, 40 C.F.R. § 761.125, addressing guidelines for defining surface soil.

C. Cost-Eftectiveness

The selected remedy is cost-effective in providing overall protection in proportion to cost and meets all other requirements of CERCLA. Section 300.430(f)(l)(ii)(D) of the NCP requires EPA to evaluate cost-effectiveness by comparing all the alternatives which meet the threshold criteria-protection of human health and the environment and compliance with ARARs--against three additional balancing criteria: long-term effectiveness and permanence; reduction of toxicity, mobility, or volume through treatment; and short-term effectiveness. EPA has considered these criteria and has determined that the selected remedy provides the best balance for overall effectiveness in proportion to its cost. EPA estimates the present worth of the selected remedy to be as high as $6 million. This estimate results from several sources' worst-case cost estimates, given the uncertainty about the actual volume of soil that will require remediation in order to meet the risk-based human health criteria presented in the selected remedy is unknown at this time.

D. Utilization of Permanent Solutions and Alternative Treatment Technologies to the Maximum Extent Practicable

None of the remedial alternatives considered would provide a permanent remedy for all soils at the Site. All alternatives, when considering the entire Site, would rely on contaminant containment and deed restrictions and the long-term maintenance that would necessarily accompany these measures to provide the necessary level(s) of protection of human health and the environment. EPA has determined that the selected remedy represents the maximum extent to which permanent solutions and treatment technologies can be utilized while providing the best balance among the other evaluation criteria.

E. Preference for Treatment as a Principal Element

The selected remedy addressed the potential risks due to dermal contact, ingestion and inhalation of Site-related contaminants in soils. Treatment as a principal element of the remedy was not selected based upon an evaluation of the alternative selection criteria as then relate to Site-specific conditions. In particular, EPA determined that treatment as a principal element of the selected remedy would very significantly increase the cost of the remedy, would increase the time frame of the remedy, and would increase the complexity of the remedy without increasing the protectiveness of the remedy.

Figures

REFERENCE:
7.5-MIN. TOPOGRAPHIC QUADRANGLE: ORANGEVILLE, OH-PA, 1961 PHOTOREVISED 1979; SHARON EAST, PA, 1958 PHOTOREVISED 1981; SHARON WEST, OH-PA, 1962 PHOTOREVISED 1979; AND SHARPSVILLE, PA, 1958 PHOTOREVISED 1981, SCALE 1:24000.

SCALE
0 2000 4000 FT.

Figure 1

Westinghouse Sharon Site

Location Map

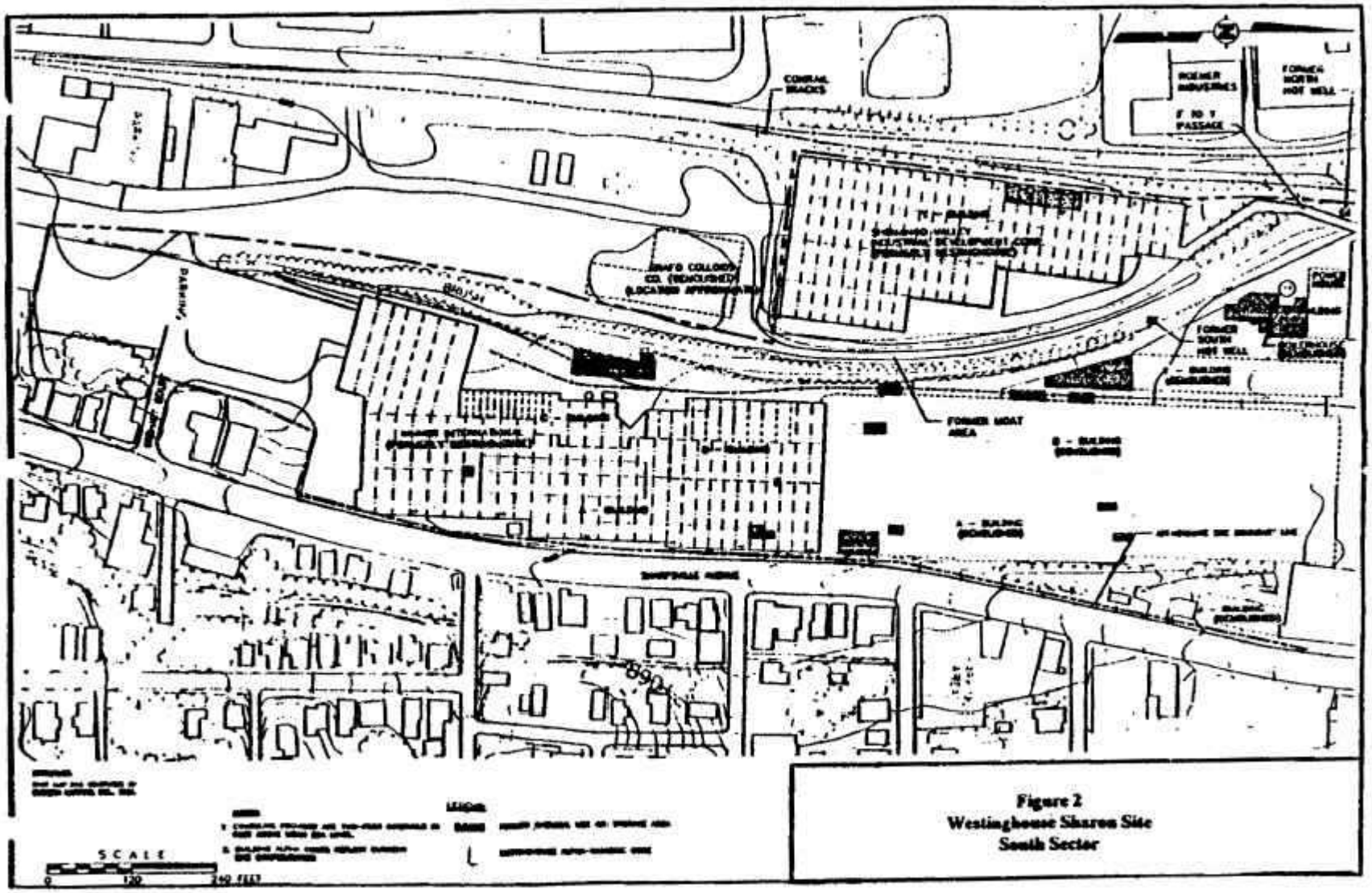


Figure 2
Westinghouse Sharon Site
South Sector

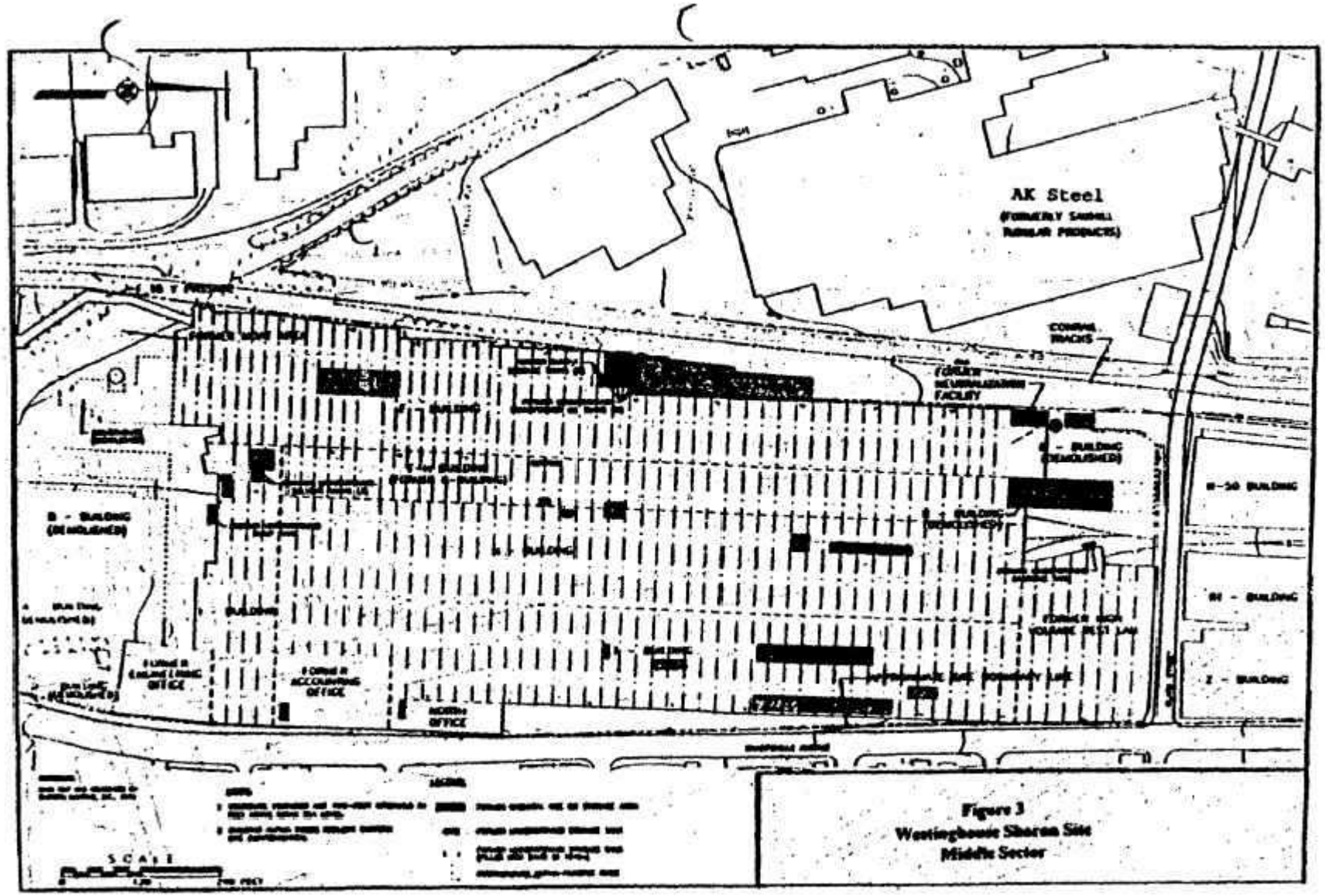


Figure 3
Westinghouse Sharon Site
Middle Sector

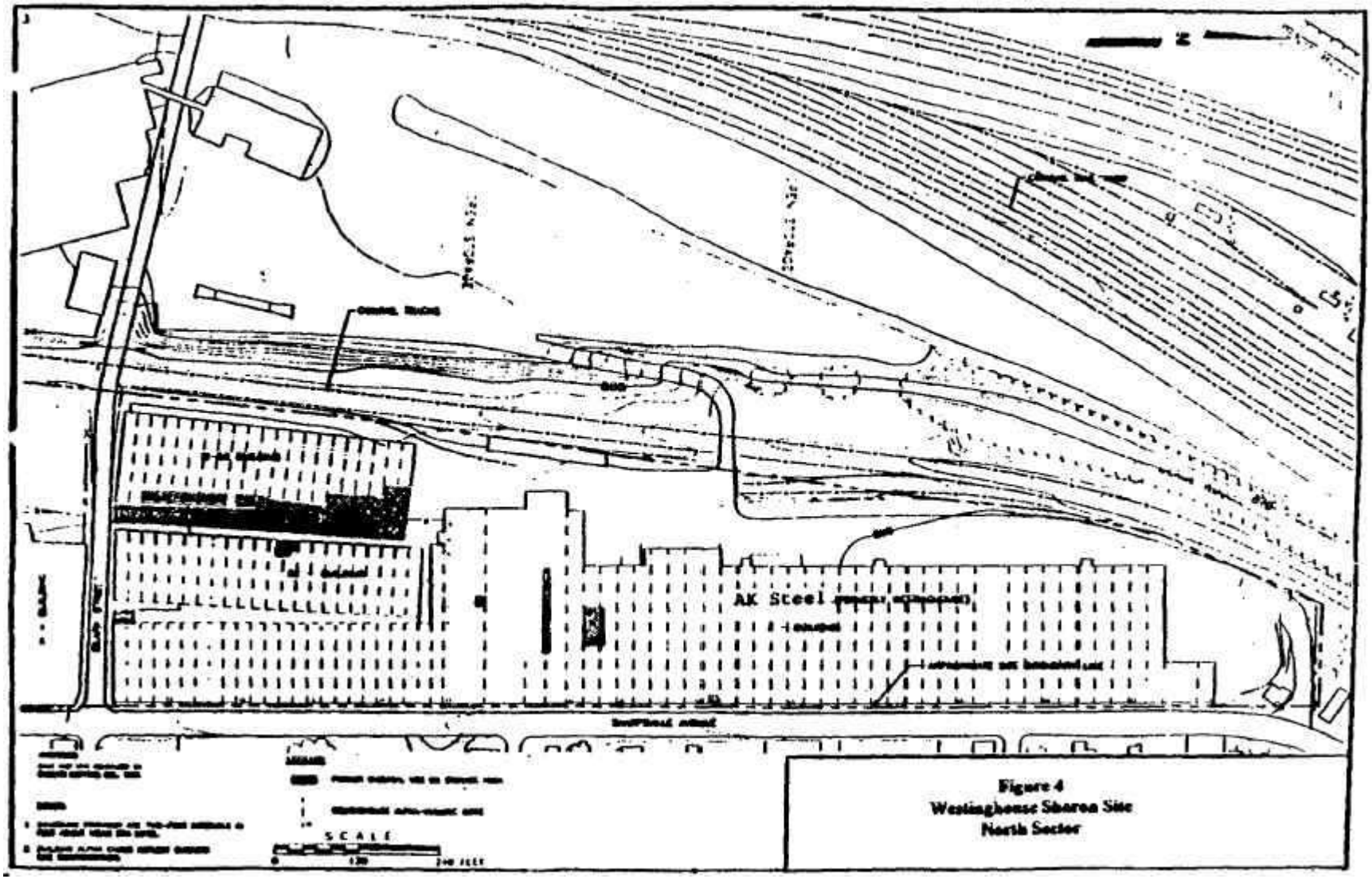


Figure 4
Westinghouse Shareon Site
North Sector

Tables

TABLE 1
SUMMARY OF BASELINE HUMAN-HEALTH RISK ASSESSMENT

Medium[a]	Hypothetical Exposure Scenario(s)[a]	Relevant Exposure Pathway(s)	Significantly Contributing Chemicals[b]	Total Carcinogenic Risk[c]	Total Non-Carc. Hazard Index[c]
Middle Buildings[d]	Employee	Inhalation	1,2-Dichloroethane	1.4E-04[e]	1.5
			1,1-Dichloroethene	2.6E-05	--
			Aroclor-1242	1.5E-05	--
			Benzene	4.4E-06	0.25
			Trichloroethene	1.6E-06	--
			Total of All Chemicals[f]	1.9E-04	1.8
Subsurface Soils	Outdoor Construction Worker[g] Indoor Construction Worker	Ingestion	Manganese	--	9
		Dermal Contact	Arsenic	6.6E-07	0.07
		Inhalation	Aroclor-1260	1E-6	
			Aroclor-1254	2E-6	0.55
			Total of All Chemicals[f]	1E-5	10
Railroad ROW Surface Soils	Child Trespasser[h] Adolescent Trespasser	Ingestion	Aroclor-1254	3.8E-05	11.1
		Dermal Contact	Aroclor-1248	3.0E-05	--
			Aroclor-1260	2.4E-05	--
			2378-TCDD (teq)	1.5E-05	--
			Arsenic	4.6E-06	0.12
			Benzo(a)pyrene	2.8E-06	--
			Iron	--	0.13
			Total of All Chemicals[f]	1.1E-04	11.5
Moat Surface Soils	Worker (Unrestricted Access)	Inhalation	Aroclor-1248	6.7E-05	--
		Ingestion	Aroclor-1254	4.5E-05	3.2
		Dermal Contact	Aroclor-1260	3.3E-05	--
			Arsenic	3.5E-05	0.22
			Total of All Chemicals[f]	1.8E-04	3.5

TABLE 1
SUMMARY OF BASELINE HUMAN-HEALTH RISK ASSESSMENT

Notes:

a. Only those media and exposure scenarios for which the calculated carcinogenic risk or non-carcinogenic hazard index exceeds the target range ($10^{-4}$and 1.0, respectively) are shown.
b. Only those chemicals which have a total carcinogenic risk of greater than 10^{-6} or a hazard index of greater than 1.0 are shown.
c. Total risks and hazard indices are the approximate values calculated by USEPA, and include each relevant exposure pathway.
d. The calculated risk for this scenario is based on indoor air samples, and are not believed to be related to impacted soils. Relevant health-based cleanup levels for soil will not be calculated based on this exposure scenario.
e. Highlighted values indicate results for which health-based cleanup levels will be calculated, as shown on Table 2
f. Totals include results for compounds not shown on this table (see note b).
g. Where two exposure scenarios are listed for a given medium, the corresponding risks are provided for the first listed scenario, for which calculated risks were higher.

TABLE 2
COMPARISON OF HEALTH-BASED AND ACT 2 CLEANUP LEVELS
WITH DETECTED LEVELS IN SURFACE/SUBSURFACE SOILS

Media/Constituent of Potential Concern	Human Health Risk Assessment Calculations			Site-Specific Human Health-Based Cleanup Levels (mg/kg)				PA Act 2 Statewide Human Health Standard Non-Res. Soils - Direct Contact/Soil-GW[a,b] (mg/kg)	Maximum Detected RI Concentration (mg/kg)	Sample ID/ RI Phase
	EPC (mg/kg)	Carcin. Risk	Non-Carc. HI	Carc. 10^{-4}	Carc. 10^{-5}	Carc. 10^{-6}	Non-Carc.			
Railroad Right-of-Way Surface Soils										
Aroclor-1254	270	3.8E-05	11.1	NA	71.1[a,b]	7.1	24	44 / 280	270	SS-7/IB
Aroclor-1248	210	3.0E-05	--	NA	79.0	7.9	NA	44 / 67	210	SS-8/IB
Aroclor-1260	170	2.4E-05	--	NA	79.8	7.1	NA	130 / 500	170	SS-7/IB
2378-TCDD (teq)	0.0016	1.5E-05	--	NA	0.0011	0.00011	NA	0.00053 / 0.032	0.0016	SS-11/II
Arsenic	48	4.6E-06	0.12	NA	NA	10.4	400	53 / 150	48	SS-12/II
Benzo(a)pyrene	4.8	2.8E-06	--	NA	NA	1.7	NA	11 / 46	5.6	SS-10/II
Lead	624	--	--	NA	NA	NA	NA	1,000 / 450	3,200[c]	SS-02/IA
Subsurface Soils										
Manganese	3,447	--	9	NA	NA	NA	375	190,000 / NA	23,600	TB8-S3/II
Arsenic	18	6.6E-07	0.07	NA	NA	NA	257	190,000 / 150	95	TB1-S4/II
Aroclor-1260	11	1E-6	--	NA	NA	NA	NA	190,000 / 500	11	TB5-S2/II
Aroclor-1254	8.3	2E-6	0.55	NA	NA	NA	42	10,000 / 280	25	TB1-S4/II
Lead	NA	--	--	NA	NA	NA	NA	190,000 / 450	205	TB4-S2/II
Moat Surface Soils										
Aroclor-1248	120	6.7E-05	--	NA	17.9	1.8	NA	44 / 67	120	SS-3/IB
Aroclor-1254	81	4.5E-05	3.2	NA	18.0	1.8	25	44 / 280	81	SS-3/IB
Aroclor-1260	58	3.3E-05	--	NA	17.6	1.8	NA	130 / 500	58	SS-4/IB
Arsenic	102	3.5E-05	0.22	NA	29.1	2.9	460	53 / 150	102	SS-5/IB
Lead	NA	--	--	NA	NA	NA	NA	1,000 / 450	900[d]	SS-01/IA
Moat Subsurface Soils										
Aroclor-1260	840	1.2E-06	--	NA	NA	689	NA	190,000 / 500	840	TS-4E/IB
Arsenic	49	6.7E-08	--	NA	NA	NA	NA	190,000 / 150	49	TS-6F/IB
Lead	451	--	--	NA	NA	NA	NA	190,000 / 450	451	TS-6B/IB

a Act 2 Soil-to-Groundwater standards shown assume a non-residential, used aquifer scenario. Using the non-residential, non-use aquifer standards, the only [illegible] soil to groundwater standards would be for Aroclor-1248 in the moat surface and railroad surface, and for Aroclor-1260 in the moat subsurface.

Highlighted health-based cleanup levels. Act 2 standards are exceeded by the maximum detected soil concentration.

[illegible] The maximum validated result was 624 mg/kg, from Phase II sample SS-11.

[illegible] The maximum validated result was 322 mg/kg, from Phase IB sample SS-3.

RESPONSIVENESS

SUMMARY

RESPONSIVENESS SUMMARY
WESTINGHOUSE SHARON SITE
OPERABLE UNIT ONE (SOILS)

Newspaper ads announcing the availability of the Proposed Remedial Action Plan (PRAP) for Operable Unit One (soils) and inviting public comment on that PRAP were published in the Sharon Herald and the Youngstown Vindicator on June 11, 1999. A public comment period was held from June 11, 1999 through July 10, 1999. On June 24, 1999, a public meeting was held at the City of Sharon Municipal Building. As a result of the public comment period, EPA received letters of comments from Cummings Riter Consultants, Inc., on behalf of CBS Corporation (CBS); from ARMCO; and from the U.S. Department of the Interior (DOI). Those comments, along with EPA's responses to the comments, are summarized below.

Comments by CBS:

1. Comment: CBS expressed its belief that the 1 ppm cleanup level proposed in the PRAP for PCBs that might exist in the truck roadway portion of the A/B Slab area and for other traffic areas might be unnecessarily conservative. CBS developed risk assessment calculations pertaining to possible dust generated by onsite traffic and submitted those calculations to EPA for review as part of its letter of comments. CBS expressed that it believes that a cleanup level of 10 ppm PCBs in the traffic areas would be sufficiently protective.

Response: EPA has carefully reviewed and considered CBS's suggestion that a cleanup level of 10 ppm for total PCBs would be protective and has decided to retain in the ROD the more protective cleanup level of 1 ppm PCBs for traffic areas that produce dust. Although EPA (and CBS) considered the risks of excess cancers to both onsite workers and to nearby residents, it is the potential (and involuntary) risk to the residents that invokes a greater conservatism by EPA. EPA estimates that excess cancer risks to residents if 10 ppm PCBs are allowed to remain in the soils would be equal to or less than 4×10^{-5} (four excess cancers per 100,000 people). If only 1 ppm PCBs is allowed to remain in the soils, then the excess cancer risk, as estimated by EPA, would be equal to or less than 4×10^{-6} (four excess cancers per 1 million). This is particularly pertinent considering that the nearby residents, whose yards were sampled by EPA several years ago, are already exposed to non-Site-related chemicals including arsenic and polynuclear aromatic hydrocarbons (PAHs) such that their baseline cancer risk is estimated to be approximately 1×10^{-4}.

2. Comment: CBS noted that the ground on the west side of the railroad tracks slopes steeply away from the tracks and that this could complicate remediation and that the remediation would require the cooperation of the railroad's owner. CBS also expressed its belief that contamination of the west side of the tracks might not be Site-related.

Response: EPA understands that the surface soil remediation, if needed, will require that the remediation be properly engineered, but that the remediation would be physically quite

feasible. EPA also knows that the cooperation of the owner of the railroad property is required. It has been shown that PCB contamination exists on the east side of the tracks, particularly in the area just west of the Middle Sector where considerable PCB rail transport activities occurred, and that the contamination diminishes in concentration toward the northern end of the Site. Soil on the west side of the tracks was not sampled during the Remedial Investigation. Regarding the relationship to the Site of any contamination that might be found on the west side of the tracks, EPA believes that all substantial contiguous PCB contamination is Site-related and that the east and west sides of the tracks are contiguous areas.

3. Comment: CBS noted that the institution of deed restrictions for those areas that CBS does not own will require the cooperation of the owners of those areas.

Response: EPA acknowledges that the cooperation of the owners is necessary not only with CBS but also with EPA. Restrictions would take the form of easements and covenants, title notices and other land use restrictions through orders from or agreements with EPA.

4. Comment: CBS recommends that the 95 percent upper confidence limit (UCL) of each compound of interest be calculated for each of the areas that is slated for pre-design soil sampling in order to determine whether and to what degree the various areas are contaminated.

Response: The 95 percent UCL might be an appropriate method to evaluate whether these areas are contaminated. However, the ROD does not specify the physical or the statistical methodologies that might be required to ascertain the degree of contamination. The ROD sets forth only the requirement that the areas be sampled to determine whether and to what degree the areas might be contaminated. The determination of the methodologies needed to meet this requirement will be made during the planning stages for the pre-design or the design, not in the ROD.

5. Comment: CBS noted that the northernmost extent of the Moat subject to backfilling is not specified in the PRAP. CBS recommended that the area of the Moat to be backfilled should be to the overhead F-to-Y passageway. CBS also recommended that the southern extent of the backfilling should be the area of the Moat that has already been backfilled by Winner Steel services.

Response: Because of past cleanup activities, the Winner Steel Services-owned portion of the Moat will not require remediation. EPA agrees that the maximum southern extent of the Moat backfill required by the ROD would be the northern limit of the area of the Moat already backfilled by Winner Steel Services. However, EPA has not set an arbitrary northern limit for the Moat backfill in the ROD. There will be a limit, but that limit should be determined as a result of post-remediation confirmation sampling that the specified soil contaminant cleanup levels have been met.

6. Comment: CBS recommended that provisions be developed which allow subsurface soils

to remain in place if an engineering determination is made that such excavations might result in damage to buildings or other structures that are to remain onsite.

Response: EPA agrees and has incorporated statements to this effect in the "EPA's Selected Alternatives" section of the ROD.

Comments of ARMCO, Inc.:

1. Comment: ARMCO (now AK Steel Corporation) expressed disagreement with EPA's proposal to apply remedial measures that were proposed for the A/B Slab truck roadway area to the North Sector (ARMCO) property. ARMCO expressed that EPA should allow for alternate remedial measures, different from those listed for the A/B Slab area, to be applied to the North Sector soils after those soils are characterized and any additional risk assessment is conducted.

Response: EPA recognizes that the characterization of the North Sector soils has been inadequate to estimate existing risks to human health for the soil contaminants present in the soils of that area. However, EPA also knows, based upon the limited sampling that has been done relating to soils in the North Sector, that at least moderate PCB contamination exists in the soils in that area. EPA's cleanup requirements set forth in the ROD assume that it is highly probable that further characterization of the area will demonstrate that contaminant levels, at least in some portions of the area, are above the levels determined to be protective of human health under similar conditions/circumstances at other parts of the Site and that some cleanup will therefore be required. EPA's soil contaminant cleanup levels which are delineated in the ROD for the North Sector are intended to reduce the risks to onsite workers and to nearby residents posed by contaminated dusts that might be generated by heavy machinery, and to supply a reasonable degree of protection to industrial workers (e.g., utility workers who might occasionally work below the ground surface) who might be exposed to the contaminated soils.

2. Comment: ARMCO expresses its belief that the implementation of deed restrictions, rather than deed notices, is excessive.

Response: The term "deed restrictions" encompasses the entire panoply of institutional controls necessary to protect human health and the environment from waste left in place. In this case, those institutional controls would take the form of easements and covenants, title notices and land use restrictions through orders from or agreements with EPA. Specifically, the deed restrictions would provide for worker safety, limit soil disturbance, prevent the installation or use of groundwater wells and prevent use of the Site for residential purposes. Given the extent to which waste will be left in place, it is appropriate to include restrictions on the use of the properties in addition to notices placed on the properties' titles.

3. Comment: ARMCO pointed out that the cleanup levels proposed in the Proposed Remedial Action Plan for the A/B Slab area for surface soils were also proposed, by EPA, for

the surface soils of the North Sector. ARMCO expressed that it believes that the conditions (e.g., security, public access) in the A/B Slab area are different from conditions in the North Sector, and that because of these differing conditions, the one (1) ppm level proposed for cleanup of the surface soils is overly restrictive. ARMCO also questioned the concept of using soils excavated from the A/B Slab area for fill in other areas onsite which have different owners. ARMCO recommended that action levels be established at the Remedial Design phase.

Response: The conditions for public access and the security provided at the A/B Slab area are not significantly different front those conditions in the North Sector, and there can be no guarantee that any stringent access restrictions will be maintained by future owners of any of the Site properties. Public access to both areas is currently limited and the primary exposures to soils considered by EPA for human receptors is from dust generated by heavy wheeled vehicles, and from a limited number of industrial activities (e.g., installation of utilities, excavations for construction). The one ppm limit for PCBs in surface soils that might cause exposures to onsite workers and to nearby residents through dust that is generated by heavy vehicles is reasonable and necessary. The cleanup level was determined upon EPA's consideration of a supplementary risk assessment which was submitted to EPA by CBS Corporation during the public comment period. (See EPA's response to CBS's comment number 1, above.)

Regarding the use of soils excavated from areas onsite being used as cover or fill material in other areas onsite, EPA has not mandated such usage, but rather has indicated that EPA has no objection to the use of acceptable fill materials taken from other portions of the Site to backfill excavated areas or as cover material as provided in the ROD. Property ownership and the rights that accompany that ownership are not to be disregarded by the entity conducting the cleanup activities.

One of the purposes of a Record of Decision is to set the cleanup levels for the various Site-related contaminants. Accordingly, EPA has set the soil cleanup requirements, including those for the North Sector, in this ROD. The Remedial Design (RD) will be based upon the requirements of the ROD, and that RD will be used to implement the Remedial Action.

Comments of the U.S. Department of the Interior:

1. Comment: The U.S. Department of the Interior (DOI) recommends that ecological risks be evaluated for the moat area and the railroad "corridor" stating that these areas provide habitat for wildlife.

Response: Westinghouse conducted a "Screening-Level Ecological Risk Assessment For the Former Sharon Transformer Plant, Sharon , Pennsylvania" as part of the Remedial Investigation. PADEP accepted that Screening-Level Ecological Risk Assessment with EPA concurrence. The moat area and the railroad property are zoned as, and are utilized as,

industrial/commercial properties. Even though there might presently be small amounts of vegetated areas on these properties, the uses of these properties are such that the owners might choose to usurp those vegetated areas for industrial or commercial purposes at any time. As an example, the entire southern end of the moat area, which had been overgrown with fugitive vegetation, was cleared, grubbed and transformed into a parking area, a railroad crossing, and a truck crossing within the past year by one of the Site property owners. Indeed, the moat, for most of its length onsite, is underlain with a large rainwater drainage line that must be maintained. Remediation of the contaminated soils within the moat will require that the existing vegetation be removed. The remediated moat area will then be used for whatever purpose(s) the owners desire. Similarly, the railroad property is utilized presently for rail transport and, typically, railroad companies use herbicides to control the vegetation along the tracks.

2. Comment: DOI expressed its belief that all pathways from the moat to the Shenango River should be eliminated because it believes that the moat appears to be the source of PCBs to the river. DOI also expressed its belief that the primary conveyances of surface water to the Shenango River should be included in a Feasibility Study.

Response: The moat is not currently a source of PCB runoff to the river. The major portion of the PCB contamination in the moat area was remediated by Westinghouse during cleanup actions initiated in January 1984 and ending in 1986. This cleanup did, however, leave some residual PCB-contaminated soil which was assessed as part of the Remedial Investigation, and which will be addressed as part of the remedial action selected in this ROD. Samplings required by the National Pollution Discharge Elimination System (NPDES) permit were conducted by Westinghouse several times per month for a period of approximately 10 years at Outfall 003 which is the outfall that received rainwater runoff from the moat area. For the past several years, that monitoring has shown that the discharge to the Shenango River has averaged less than one microgram (1 ppb) PCBs per liter. Information regarding this matter is shown in Section 1.5.2 and Appendix B of the RI document. Additionally, within the past year, the entire southern end of the moat--the lower end--has been filled to the level of the surrounding roadways and thereby prevents any water from leaving the moat via surface routes or drainageways from that end of the moat.

The remedial measures for the moat area which are called for in the ROD will provide further assurances that Site-related contamination will not impact the Shenango River. EPA and PADEP intend that consideration of the drainageways will be included in an upcoming Feasibility Study for a second operable unit which will also address the Shenango River sediments and floodplain.

3. Comment: DOI expressed its belief that “clean impermeable surfaces and separate discharge conveyances to the river...” are necessary to assure that residual contaminants are not transported to the river via drainage ditches and storm sewers.

Response: As noted above in EPA’s response to DOI comment number 2, there is no

significantly contaminated surface water discharge to any conveyance from the moat area, even though it is the moat area which has been found to (currently) contain the highest concentrations of PCBs. Also, the outfall from the former north hotwell has been closed off (that outfall was located downstream from the Clark Street outfall). In 1992, as part of the Remedial Investigation (RI), samples of rain water runoff were obtained during a rain event. The sample of runoff water collected within the drainage line at the Clark Street outfall, which receives water from the Middle Sector and the North Sector, showed no detectable PCB contamination. A sample collected at the Franklin Street outfall during that sampling event contained 8.2 parts per billion (ppb) PCBs. However, a sample collected at the southwest corner of the Site in an upgradient portion of the Franklin Street sewer system had no detectable PCB contamination during the same sampling event. The Franklin Street sewer runs for about 2000 feet west from the Site and collects drainage from several streets that serve a number of commercial and industrial properties. Because PCBs are common environmental contaminants, and because no PCBs were detected in the upgradient sewer sample at the border of the Site, it is possible that the small concentration of PCBs collected at the Franklin Street sewer outfall was not Site-related.

It is important to note that the RI samples discussed in the paragraph above were obtained prior to the soil remediation that is called for in the Operable Unit One ROD. EPA expects that any threat of PCB contamination to the river from the Site will be very significantly reduced by the remedial measures required by the ROD.

4. Comment: DOI expressed that, "the PRAP does not fully describe how the preferred remedies will prevent any soil to groundwater conveyance of contamination to the River." DOI also expressed that residual contamination after implementation of the remedies would exceed both the "used" and the "non-use" aquifer standards set forth under Pennsylvania's Act 2.

Response: It is acknowledged that the alluvial ground water at the Site is significantly contaminated with Site-related hazardous substances, notably PCBs, chlorinated aliphatic hydrocarbons, and chlorinated benzenes. There appear to be only very isolated impacts from the Site to the bedrock aquifer, and the Site-related ground water contamination appears to be confined almost exclusively to the alluvial aquifer. (Bedrock well M-4B has a low concentration of PCBs which appears to be spurious in nature. Bedrock well M-11B, which is drilled through a contaminated alluvial area, shows a low level of ground water contamination which may be due to leakage around the well casing.) The impact of ground water from the alluvial aquifer upon the Shenango River is difficult to evaluate although it appears that this aquifer is not impacting the surface water. This judgement is made based upon the Site's distance from the River (800 to 2000 feet) and because downgradient wells used for the RI show limited contaminant migration. Also, sampling of the water in the River has not indicated that ground water contaminants from the Site are impacting the River's water.

Regarding Pennsylvania's Act 2, that Act and its implementing regulations are not

considered by EPA to be applicable or relevant and appropriate requirements (ARAR) for the purposes of this remedial action. Act 2 standards were included by CBS Corporation in the soils Feasibility Study (FS) as a basis of comparison, and these standards were included in the PRAP because they were included in the FS. Non-aqueous phase liquid (NAPL) contaminants, and dissolved contaminants in ground water at the Site will be addressed in a subsequent ROD.

5. Comment: DOI expressed its belief that the Site soil cleanup criteria proposed in the PRAP were derived without consideration for risk to ecological receptors.

Response: EPA's onsite soil cleanup criteria were formulated with the full knowledge, gained from the information gathered during the Remedial Investigation, that the onsite soils currently are presenting a negligible impact upon the Shenango River, considering both overland routes and ground water. EPA's cleanup criteria are derived considering that the properties that comprise the Site are commercial/industrial and will remain so into the foreseeable future (see EPA's response to DOI comment number 1, above).

6. Comment: DOI expressed its belief that the soil cleanup levels proposed in the PRAP are not protective, and are inconsistent and confusing. DOI questions the varying cleanup levels designated for the various areas and at various depths.

Response: The soil cleanup levels proposed in the PRAP, and the levels set forth in this ROD, are levels which will be protective of human health and which will also be protective of the environment considering that the area is designated for industrial and commercial purposes. For example, EPA's cleanup level for total PCBs in the railroad area surface soils is 25 parts per million (ppm) for the top 10 inches of soil and 71 ppm for soils from a depth of 10 inches to 24 inches. No absolute definition of "surface soil" exists in EPA's regulations or guidance. However, EPA's 1987 PCB Spill Cleanup Policy, which is a "To Be Considered" (TBC) standard, and not an ARAR, does refer to the top 10 inches of soil for the purposes of certain cleanup activities, and the Pennsylvania Department of Environmental Protection has informed EPA that it prefers to conservatively designate the top 24 inches of soil as "surface soil" at this Site. Therefore, for the purposes of this cleanup, EPA has conservatively chosen to designate the top 24 inches of soil as "surface soil" while realizing that certain exposures to soils at depths greater than 10 inches is unlikely. For example, regarding the railroad property, the primary risk scenarios involve exposures of child and adolescent trespassers to PCBs. It is unlikely that such trespassers would be exposed to soils below a depth of 10 inches, and the cleanup level for the top 10 inches was set at 25 ppm which corresponds to an excess cancer risk of approximately 3×10^{-6}. EPA has selected a cleanup level of 71 ppm for total PCBs in the railroad soil from a depth of 10 inches to 24 inches. This corresponds with an excess cancer risk *in surface soil* of 1×10^{-5}. Both of these exposure scenarios are within the acceptable risk range delineated in the NCP. Since low volume surface spillage and tracking of PCBs are suspected to have resulted in the PCB contamination of the railroad area, EPA believes that substantial contamination at greater depths is unlikely, and, in any case would not present an endangerment to human health.

EPA has chosen not to remediate soils that are directly overlain with ballast and railroad tracks because of the very limited likelihood of direct exposures to those soils and because of the major disruption to rail service that the implementation of such a remedy would cause.

7. Comment: DOI pointed out that the cleanup scenario for the moat would allow soil containing up to 25 ppm PCBs to be used as cover fill material. DOI expressed that the cleanup level of 689 ppm for total PCBs required for the moat subsurface (below 24 inches) soils is "seemingly arbitrary" and questions how this number was derived. DOI also expressed that there is no maximum depth set for excavation in the moat.

Response: EPA's remedy for soils at the Site does not require the elimination of contamination, but rather requires the reduction of contaminant concentrations and/or the reduction of exposure(s) relating to risks due to certain contaminants. The onsite use of cover/fill materials contaminated with low concentrations of PCBs (25 ppm or less), derived from excavations onsite, is an appropriate use of these materials when combined with a 10-inch topping of clean soil or of paving materials. There currently exists onsite a very large pile of this material which was excavated from areas in the southern portion of the Site, and more such material might be generated as a result of future cleanup activities. To dispose of all of this material offsite would result in a large expenditure of funds and would also result in the usurpation of a considerable amount of space within one or more residual waste landfills. It is important to note that EPA is not requiring the use of this material onsite, but merely informing that its usage is acceptable under certain circumstances. Such usage would be consistent with the use of that material to date on the Site and would not compromise the protectiveness of the remedy.

The 689 ppm cleanup level proposed in the PRAP for <u>total</u> PCBs was conservatively derived from the Site-specific human health-based cleanup level for PCB Aroclor 1260 in moat subsurface soils. This cleanup level for Aroclor 1260 was shown on Table 2-2 of the soils Feasibility Study (FS). The 689 ppm cleanup level was determined to correspond with the very conservative 1×10^{-6} excess cancer risk. No maximum depth for excavation of moat subsurface soils was proposed in the PRAP because of the known presence of the storm water drainage line in the moat area. All excavations in the moat will require that the storm drainage line be considered. It is the judgment of EPA that such consideration would most appropriately be left for the Remedial Design of the cleanup. That Remedial Design will be subject to review and acceptance or preparation by EPA.

8. Comment: DOI questioned why EPA chose a more stringent surface contaminant cleanup level for certain areas (e.g., the A/B Slab truck roadway) than for other areas (e.g., the railroad) considering dust generation. DOI also questioned why rainwater runoff was considered in the PRAP to be more relevant in the truck roadway areas than in other areas of the Site.

Response: The dust generated by truck and heavy equipment traffic in certain areas of the Site

is much more prominent and pervasive than in other areas. For example, dust generation caused by truck traffic at the southern end of the A/B Slab area of the Site has been observed frequently by government personnel visiting the Site and has reportedly been the subject of complaints from residential neighbors of the Site. Comparatively, rail transport generates little dust. Therefore, more stringent surface soil cleanup requirements were set for those areas which are more likely to generate dust that would present a greater risk due to the inhalation and ingestion of, and direct skin contact with, soil contaminants.

Although the term "rainwater runoff" was used in the PRAP, a more appropriate term relating to the truck and heavy equipment roadway areas is "rainwater ponding." There is currently a more significant amount of soil disturbance caused by heavy vehicle traffic in certain areas of the Site (e.g., the southern end of the A/B Slab area) than in other areas of the Site. There is actually little concern of any significant runoff of rainwater from these areas of the Site since the areas are essentially level. The southern end of the A/B Slab, for example, varies only about one-tenth of one foot in elevation over its area. It is more likely that rainwater might stand in puddles. Ponded water, or mud, could be "tracked" offsite by wheeled vehicles. [Since the issuance of the PRAP, EPA has been informed that it is likely that a building will be built over the A/B Slab area as part of future industrial expansion. This would reduce or eliminate any concern relating to contaminated dusts or ponded water in this area.] EPA has considered rainwater runoff from other areas of the Site and has not found it to be of potential concern. (See response to DOI comments numbers 1 and 5, above.)

STATE

LETTER

Pennsylvania Department of Environmental Protection
230 Chestnut Street
Meadville, PA 16335-3481
January 31, 2000

Northwest Regional Office
814-332-6816
Fax: 814-332-6125

Mr. Abraham Ferdas
Director, Hazardous Site Cleanup Division (3HS00)
Environmental Protection Agency
Region III
1650 Arch Street
Philadelphia, PA 19103-2029

Re: Record of Decision (ROD)
Westinghouse Sharon Superfund Site
City of Sharon
Mercer County

Dear Mr. Ferdas:

The Department has reviewed the Record of Decision ("ROD") for Operable Unit 1 ("OU-1") for the soils on the Westinghouse Sharon Site ("Site") received in this office on December 30, 1999. The Department understands that a second Operable Unit ("OU-2") addressing site contaminated groundwater and Shenango River sediments is still being evaluated for remedial alternatives.

The selected remedy for OU-1 addresses the principal threats to public and on-site worker health and safety by removing and off-site disposing contaminated surface and subsurface soils present on the Site. The selected remedy for the Site includes the following components:

- Additional characterization of the surface and subsurface soils on the west side of the railroad tracks, the truck roadway area immediately north of the South Sector buildings (Winner Steel Services), and the North Sector and Y Building roadway areas.

- Excavation of soils having PCBs, lead, and arsenic concentrations exceeding risk-based levels.

- Treatment, prior to disposal, of soils exhibiting the characteristic of toxicity and constituting a Land Disposal Restriction hazardous waste under the Resource Conservation and Recovery Act.

- Off-site disposal of the excavated and/or excavated and treated soils.

- Backfilling of excavated areas, not used as roadways, with at least two feet of soil. Roadway areas will be backfilled, or paved, with materials that have sufficient strength to support the anticipated truck traffic.

(Deed restrictions (e.g., easements and covenants, title notices, and land use restrictions) to provide for worker safety, to limit soil disturbance, to prevent the installation or use of groundwater wells, and to prevent use of the Site for residential purposes.

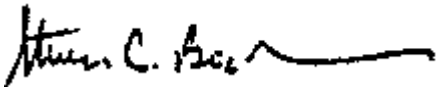
The Department disagrees with certain statements in Section XIV.R. [Compliance with and Attainment of Applicable of Relevant and Appropriate Requirements ("ARARs")] of the OU-1 ROD. First, Pennsylvania asserts that the Land Recycling and Environmental Remediation Standards Act ("Act 2") and the regulations promulgated thereunder (25 Pa. Code Chapter 250) are ARARs for the remedy under CERCLA §121(d)(2). The Act 2 regulations specify PCB soil cleanup standards, including numerical values regarding the surface to groundwater pathway, which are not encompassed by TSCA. Moreover, there are soil to groundwater pathway cleanup standards for lead and arsenic in Act 2, but none are evaluated in the ROD. Also, the OU-1 ROD should include the Department's action-specific ARARs, which are the Solid Waste Management Act, 35 P.S. §§6018.101-6018.1003 and the relevant waste handling and disposal regulations in 25 Pa. Code Chapters 260-266 and 287.

In order for the proposed cleanup to meet the site-specific standard set forth in Section 304 of Act 2, and the applicable regulations, characterization of the entire site, including the groundwater, is required. Because of the approach that both the Department and the EPA have encouraged, separating the soil and groundwater into different operable units, the groundwater is not being addressed with this ROD. The Department's concurrence with the remedy is made with the understanding that the OU-2 ROD will fully address the groundwater contamination at the site.

Based upon the understanding set forth above, the Department concurs with the remedy chosen for the Site. The Department nonetheless respectfully disagrees with the OU-1 ROD's language that fails to recognize Act 2 and the Solid Waste Management Act and their relevant regulations as ARARs for the purposes of CERCLA §121(d)(2). The Department's concurrence with the remedy is made with the understanding that the OU-2 ROD will effectively manage groundwater contamination.

I wish to thank your staff for your cooperation in this matter. Should you have any questions regarding this matter, please call Chuck Tordella, the site Project Manager, or me, at this office.

Sincerely,



Steven C. Beckman
Regional Director

cc: Mr. Janosik
Ms. Dougherty
Mr. Buchwach

SCB:CLT:lsl